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ORIGINAL ARTICLE

Comb-footed spiders (Araneae: Theridiidae) in the tropical rainforest of Xishuangbanna, Southwest China

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Abstract Xishuangbanna, with its typical tropical rainforest, is one of China's biodiversity hotspots. Through several years of extensive survey work on the spiders in rainforest and adjacent habitats, 32 genera and 101 species, including 33 new species, of the family Theridiidae were collected. Four genera, *Allothymoites* Ono, 2007, *Nojimaia* Yoshida, 2009, *Tekellina* Levi, 1957 and *Yunohamella* Yoshida, 2007, are newly recorded from China. The 33 new species are diagnosed, described and illustrated. Type specimens are deposited in the Institute of Zoology, Chinese Academy of Sciences in Beijing (IZCAS).

Key words Biodiversity, Yunnan, morphology, theridiid, new species.

1 Introduction

Theridiidae is the fifth largest family of spiders in the world, with 2356 species in 121 genera (Platnick, 2013). Recently, lots of molecular or morphological works of the family were published (Agnarsson, 2004; Agnarsson *et al*., 2007; Yoshida, 2003a; Zhu, 1998). At the same time, a series of new genera were erected or divided from such as *Theridion* Walckenaer, 1805 or *Achaearanea* Strand, 1929. Wunderlich published many books which including new genera, for example the genera *Ameridion* Wunderlich, 1995, *Anatolidion* Wunderlich, 2008 and *Canalidion* Wunderlich, 2008. Yoshida who are mainly concentrating on Japan theridiids divided the genera *Phycosoma* O. P.-Cambridge, 1879 from *Dipoena* Thorell, 1869, *Emertonella* Bryant, 1945 from *Euryopis* Menge, 1868 and erected a series of new genera.

Xishuangbanna (Fig. 110), located in Southwest China and controlled by typical tropical monsoon climate, has three distinct seasons: rainy season (May–October), cool dry season (November–January) and hot dry season (February–April) (Cao *et al*., 2003). Owing to the transitional geographic location and climatic environment, straddling the tropics and subtropics, Xishuangbanna is well known for its rich biodiversity and still maintains the most represented and the best conserved tracts of tropical rainforest in China.

A thorough sampling on spiders in five forest types of Xishuangbanna, ravine tropical seasonal rainforest, tropical seasonal moist forest, tropical montane evergreen broad-leaved forest and artificial forest and rubber (*Hevea brasiliensis*) plantation, has been carried out by collegues of Chinese Academy of Sciences since June 2006. A total of 101 species, belonging to 32 genera, are indentified by examining all of the adult theridiid specimens.

2 Material and methods

All specimens mentioned in this paper are from ecological survey and the following supplementary fogging collection

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from 2006 to 2009, in Xishuangbanna Botanical Garden of Chinese Academy of Sciences and the other rainforest nature reserve in Menglun Town, Mengla County of Yunnan Province. A total of 170 thousand spiders were gathered through the survey covering about 1000 m^2 with 445 plant species. Theridiids with more than 2000 adult spiders are in the majority of all the 20 thousand of adult specimens.

The specimens studied here are deposited in the Institute of Zoology, Chinese Academy of Sciences in Beijing (IZCAS). All specimens are preserved in 75% alcohol. Specimens were examined using Leica M205C stereomicroscope. Further details were studied under Olympus BX51 compound microscope. All illustrations were made using a drawing tube and inked on ink jet plotter paper. Photos were taken with an Olympus C7070 wide zoom digital camera (7.1 mega pixels) mounted on an Olympus SZX12 stereomicroscope. The images were montaged using Helicon image stacking software.

For embolus examination, male pedipalpi were immersed in 15% NaOH before transferred to alcohol, so rapid expansion occurred. Vulvae of females were cleared in 15% NaOH. Pedipalpi without cymbium and vulvae of females are fixed by acacia gum before drawn and taken photos.

All measurements are given in millimeters. Eye diameters are taken at the widest point. The total body length does not include the length of the chelicerae or spinnerets. The terminology used in text and figure mainly follows Agnarsson *et al.* (2007).

For each species only the following synonyms and references are given in the text: original description, references to relevant papers by Chinese colleagues. For other synonyms and references, see Platnick (2013).

The following abbreviations are used in the text: ALE-anterior lateral eyes; AME-anterior median eyes; C-conductor; CD-copulatory duct; CO-copulatory orifice; E-embolus; EA-embolic apophysis; FD-fertilization duct; MA-median apophysis; PLE-posterior lateral eyes; PME-posterior median eyes; S-spermatheca; ST-subtegulum; T-tegulum; TTA-theridiidae tegular apophysis.

3 Taxonomy

Family Theridiidae Sundevall, 1833

3.1 Genus *Allothymoites* Ono, 2007

Diagnosis. Members of this genus differ from others by the prosoma with warty clypeus, but without distinct projection; extremely large eyes; male pedipalpi with large tegular apophysis; female epigynum with strongly sclerotized genital opening with expanded posterior margin; spermathecae paired with long fertilization tubes (Ono, 2007).

***Allothymoites kumadai* Ono, 2007**

Allothymoites kumadai Ono, 2007: 162, figs 32–44.

Material examined. China, Yunnan, 4♂, 1♀, Xishuangbanna, Menglun Nature Reserve, tropical evergreen rainforest (21°56.206'N, 101°16.204'E), 1 December 2009, Guo Tang and Zhi-Yuan Yao leg.

Distribution. China (Yunnan); Japan.

***Allothymoites repandus* sp. nov.** (Figs 1–3)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun, bamboo plantation (21°53.646'N, 101°16.975'E), 26 November 2009, Guo Tang and Zhi-Yuan Yao leg.

Etymology. The specific name derives from the Latin adjective *repandus* and means undulate, in reference to the wavy edged tegular apophysis.

Diagnosis. The new species is similar to type species of the genus, *A. kumadai*, but can be distinguished by the conductor distinct, shaped like a “Z”, with a basal apophysis; tegular apophysis with wavy edge; embolus short, not winding. The latter species lacks a distinct conductor and has a slender and winding embolus (Yoshida, 2009b).

Male (measurements of holotype). Total length 1.30. Prosoma 0.68 long, 0.45 wide, flat, yellow, with black stripes in

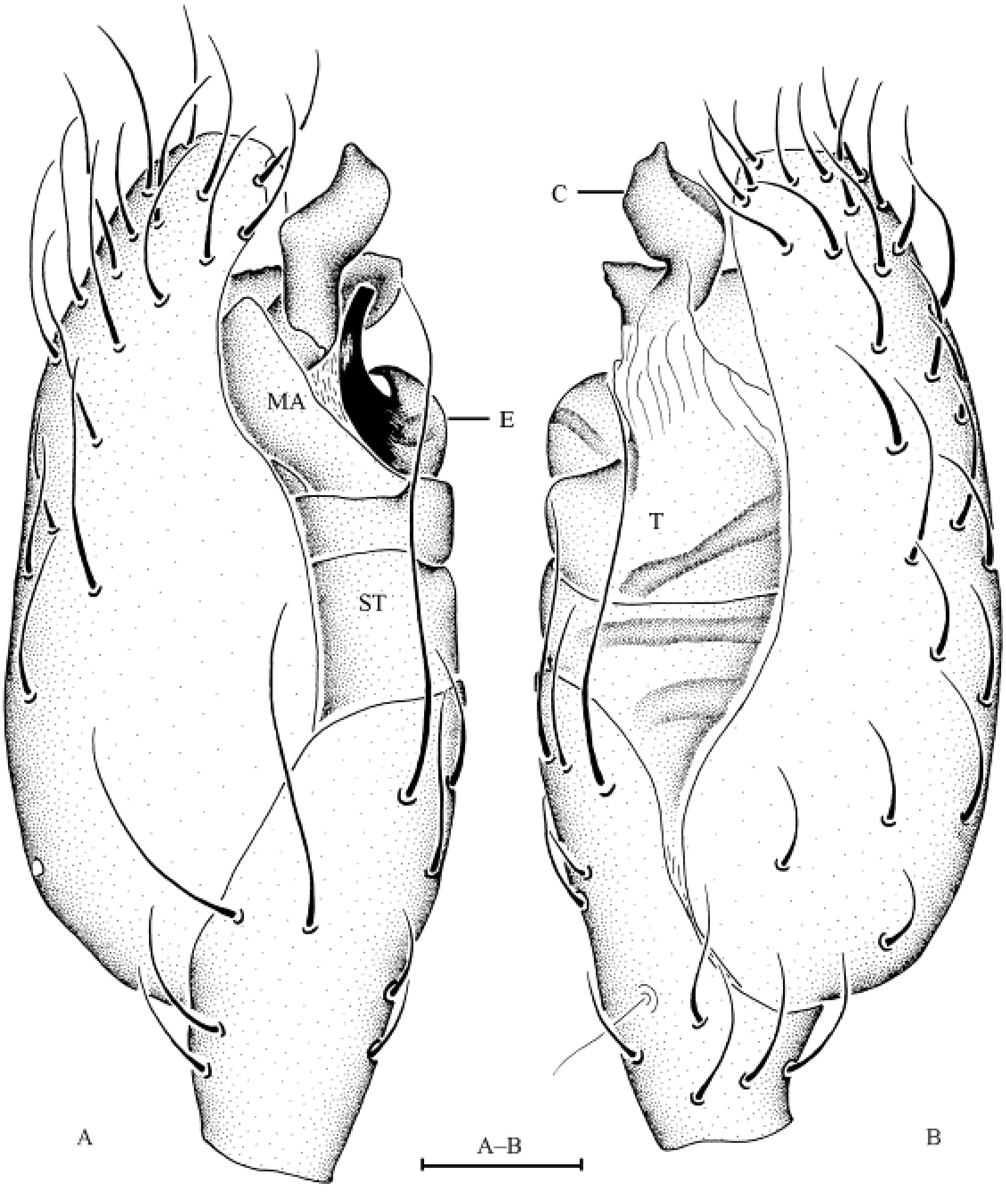

Fig. 1. *Allothymoites repandus* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view; Scale bar = 0.05 mm.

middle. Sternum 0.60 long, 0.58 wide, yellow. Opisthosoma 0.83 long, 0.78 wide, pale, with large spots, slender setae, without colulus. Eye measurements: AME 0.06, ALE 0.06, PME 0.06, PLE 0.06, AME-AME 0.04, AME-ALE 0.03, PME-PME 0.03, PME-PLE 0.03. Clypeus height about 1.8 times AME diameter, yellow, with 2 tubercles. Chelicerae: yellow, without spot, with 2 anterior teeth; fangs long, slender. Endites: 0.19 long, 0.09 wide, yellow with brown pro-edges. Labium fused with sternum, 0.06 long, 0.13 wide, with 4 long setae, yellow. Leg measurements: I 2.90 (1.00, 0.24, 0.81, 0.50, 0.35); II 2.51 (0.83, 0.25, 0.63, 0.46, 0.34); III 2.23 (0.56, 0.19, 0.63, 0.50, 0.35); IV 2.06 (0.63, 0.25, 0.44, 0.43, 0.31). Leg I yellow, without spot; femur with 3 rows of spines, patella with 2 spines, tibia with row of spines. Legs

II–IV similar to leg I. Pedipalpus (Figs 1A–B, 2A–D, 3A–D): tibia with 2 trichobothria; cymbium brown, with black spots; paracymbium hooded; subtegulum broad; tegulum narrower than subtegulum; median apophysis large, with notch; embolus short, without basal processes; conductor strongly sclerotized, shaped like “Z”; tegular apophysis distinct, with undulate edge.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

Allothymoites sculptilis **sp. nov.** (Figs 4–6)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun, rubber plantation (about 20 years) (21°54.463’N, 101°15.978’E), 21 July 2007, Guo Zheng leg.

Paratypes 2♂, Xishuangbanna, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°54.772’N, 101°16.043’E), 18 July 2007, Guo Zheng leg.

Etymology. The specific name derives from the Latin adjective *sculptilis* and means carved, in reference to the presence of a notch on the surface of median apophysis.

Diagnosis. The new species is similar to *A. kumadai*, but can be distinguished by the developed, membranous conductor, the notched median apophysis, and the absence of sharp angle on the median apophysis. The latter species lacks a distinct conductor and has a median apophysis with a sharp angle (Yoshida, 2009b).

Male (measurements of holotype). Total length 1.38. Prosoma 0.68 long, 0.51 wide, brown, with black stripes, setae. Sternum 0.40 long, 0.38 wide, grey with setae. Opisthosoma 0.73 long, 0.59 wide, grey, with pale spots, without colulus. Eye measurements: AME 0.08, ALE 0.08, PME 0.07, PLE 0.07, AME-AME 0.08, AME-ALE 0.03, PME-PME 0.03, PME-PLE 0.06. Clypeus height about 1.67 times AME diameter, brown, with 2 tubercles. Chelicerae: brown, with 1 anterior tooth; fangs long, slender. Endites: 0.21 long, 0.09 wide, brown with dark pro-edges. Labium fused with sternum, 0.09 long, 0.13 wide, with 4 setae, brown. Leg measurements: I 2.53 (0.88, 0.21, 0.69, 0.44, 0.31); II 2.20 (0.75, 0.25, 0.56, 0.35, 0.29); III 1.43 (0.46, 0.16, 0.31, 0.25, 0.25); IV 1.60 (0.50, 0.19, 0.38, 0.28, 0.25). Leg I oax yellow, without spot; femur brown, with black stripes; patella-tarsus yellow, with black stripes; femur with 2 rows of spines, patella with 2 spines, tibia with 2 spines, 2 trichobothria, metatarsus with 2 trichobotria, tarsus without spine. Legs II–IV similar to leg I, femur III–IV pale yellow. Pedipalpus (Figs 4A–B, 5A–C, 6A–D): tibia yellow, with black spots, 2 trichobothria; cymbium yellow, with large black spot; paracymbium hooded; subtegulum broad; tegulum confined; median apophysis well developed, with notch; embolus short, strongly sclerotized, without basal processes; conductor membranous, with dent; tegular apophysis with notch.

Variation. Male paratypes. Total length 1.00–1.15; prosoma 0.44–0.53 long, 0.44–0.46 wide; sternum 0.28–0.29 long, 0.28–0.29 wide; opisthosoma 0.54–0.63 long, 0.53–0.58 wide.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

3.2 Genus *Argyrodes* Simon, 1864

Argyrodes cylindratus **Thorell, 1898**

Argyrodes cylindratus Thorell, 1898: 286.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun, rubber plantation (about 20 years) (21°54.498’N, 101°16.326’E), 17 July 2007, Guo Zheng leg.

Distribution. China (Yunnan); Myanmar to Japan.

Argyrodes flavescens **O. P.-Cambridge, 1880**

Argyrodes flavescens O. P.-Cambridge, 1880: 321, pl. 28, fig. 1; Zhu & Song, 1991: 135, figs 6A–D; Zhu, 1998: 204, figs 132A–D; Song *et al*., 1999: 100, figs 46A–B, K.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun, rubber plantation (about 20 years) (21°54.684’N, 101°16.319’E), 16–24 August 2006, Guo Zheng leg.

Distribution. China (Fujian, Hunan, Yunnan); India, New Guinea, Sri Lanka to Japan.

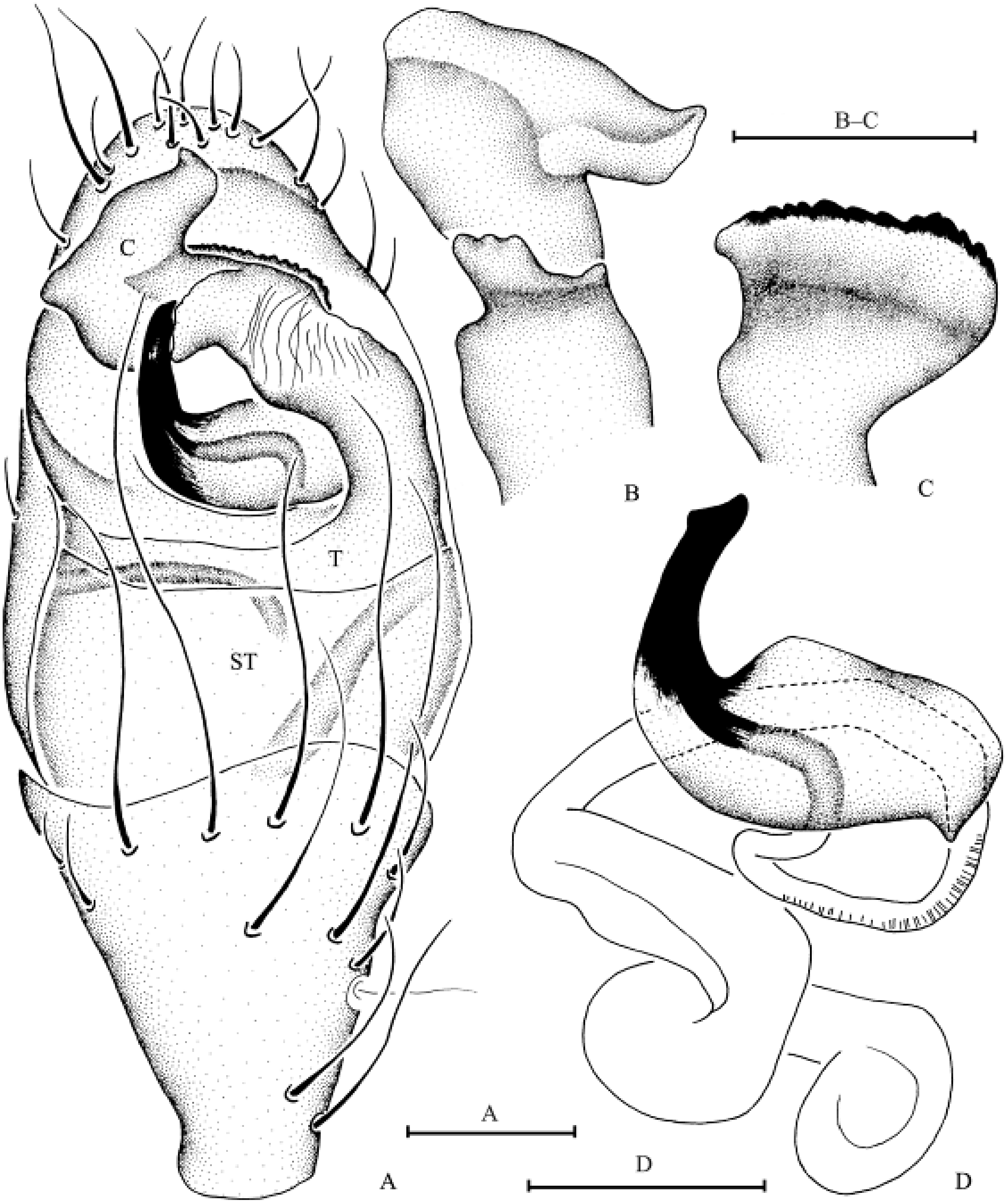

Fig. 2. *Allothymoites repandus* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Conductor, ventral view; C. TTA, ventral view; D. Embolus, ventral view. Scale bars = 0.05 mm.

Argyrodes kumadai Chida & Tanikawa, 1999

Argyrodes kumadai Chida & Tanikawa, 1999: 33, figs 3–8.

Argyrodes fissifrons Zhu & Song, 1991: 134, figs 5A–E (misidentified); Zhu, 1998: 206, figs 134A–E (misidentified).

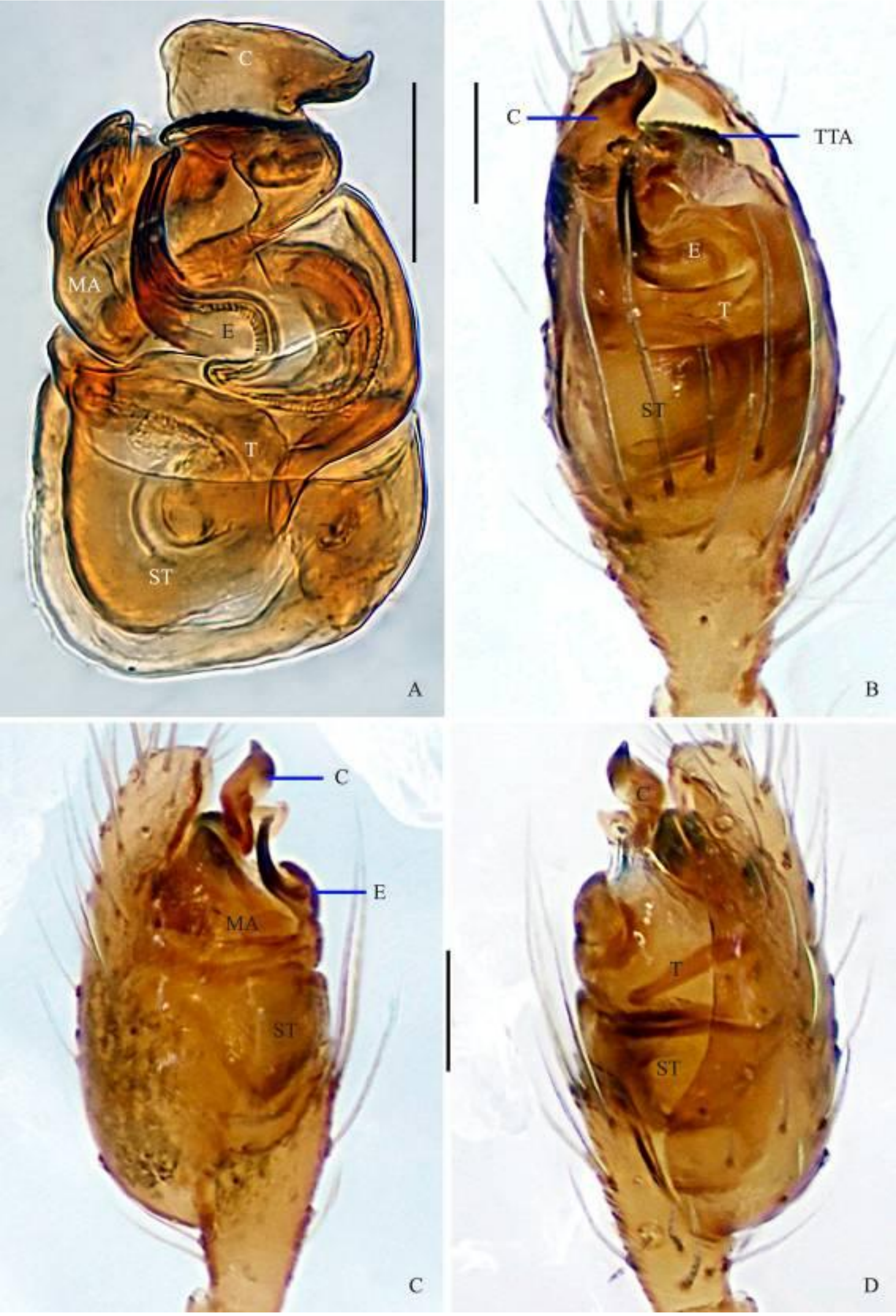

Fig. 3. *Allothymoites repandus* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.05 mm.

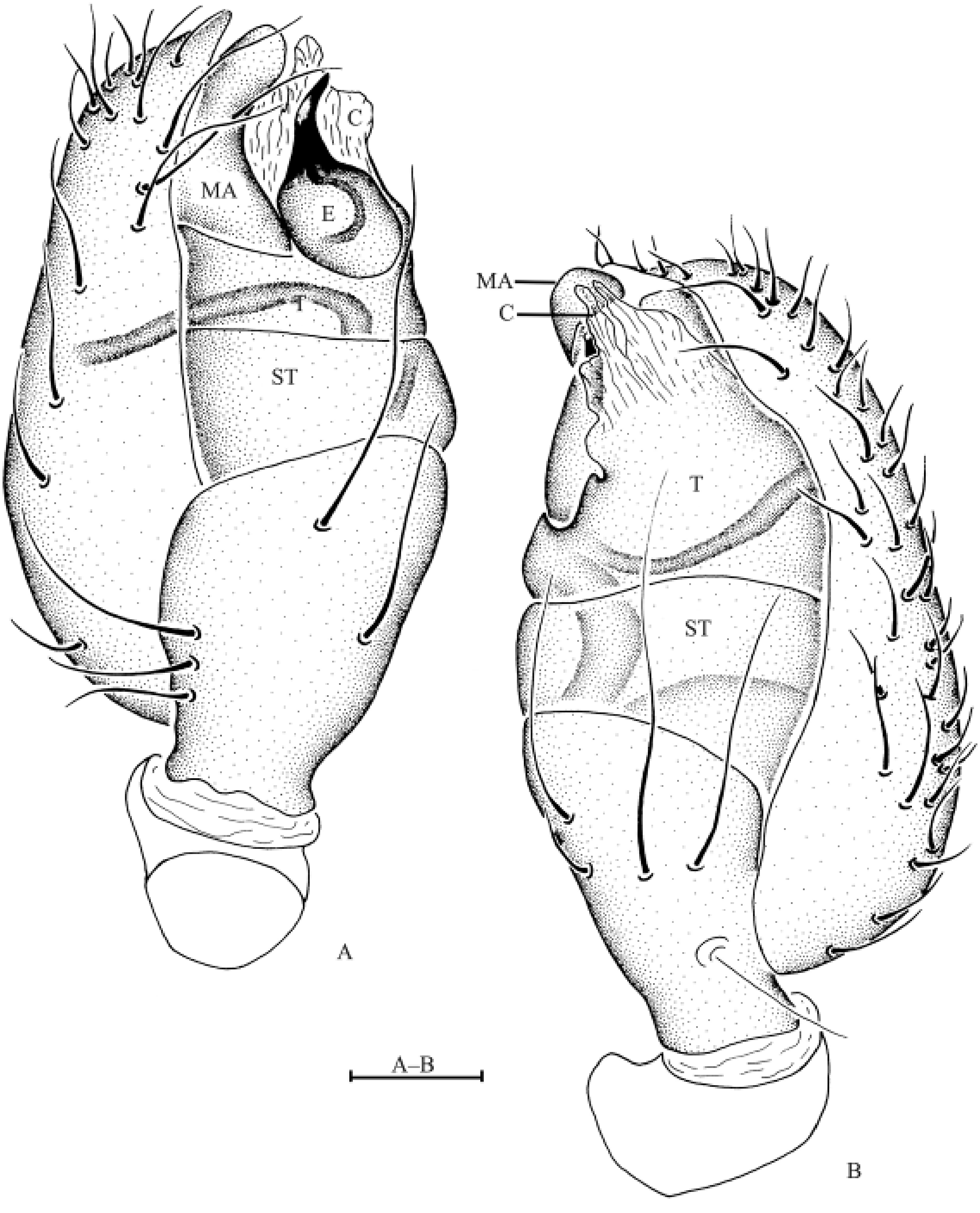

Fig. 4. *Allothymoites sculptilis* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.05 mm.

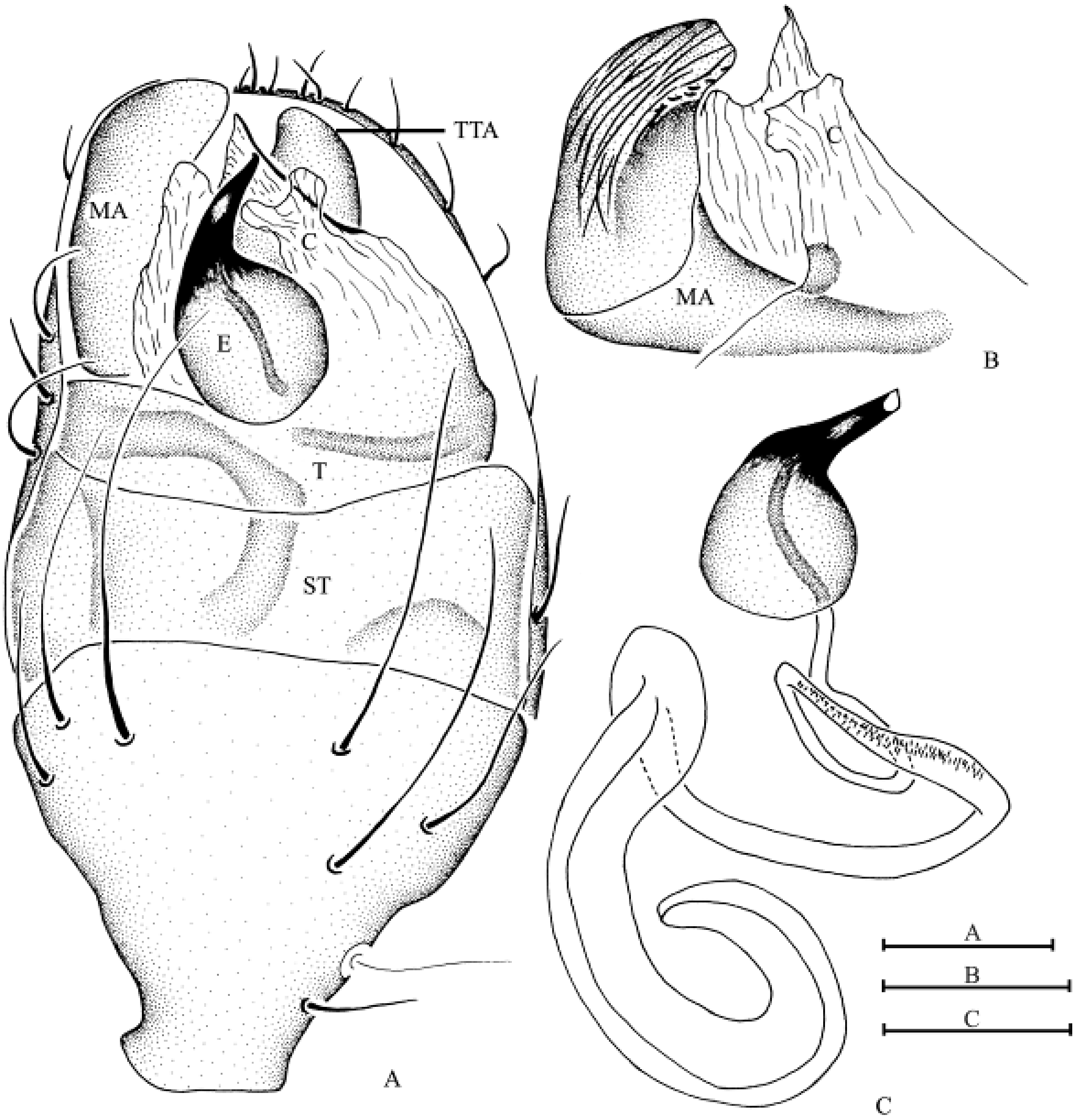

Fig. 5. *Allothymoites sculptilis* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. MA and conductor, ventral view; C. Embolus, ventral view. Scale bars = 0.10 mm.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°54.772'N, 101°16.043'E), 19–25 February 2007, Guo Zheng leg.

Distribution. China (Fujian, Guizhou, Hainan, Hong Kong, Hunan, Yunnan); Japan.

3.3 Genus *Ariamnes* Thorell, 1869

Diagnosis. Members of this genus differ from others by the prosoma often with modifications; opisthosoma extremely elongated; epigynum with elongate spermathecae; male pedipalpus with embolic apophysis (Agnarsson, 2004).

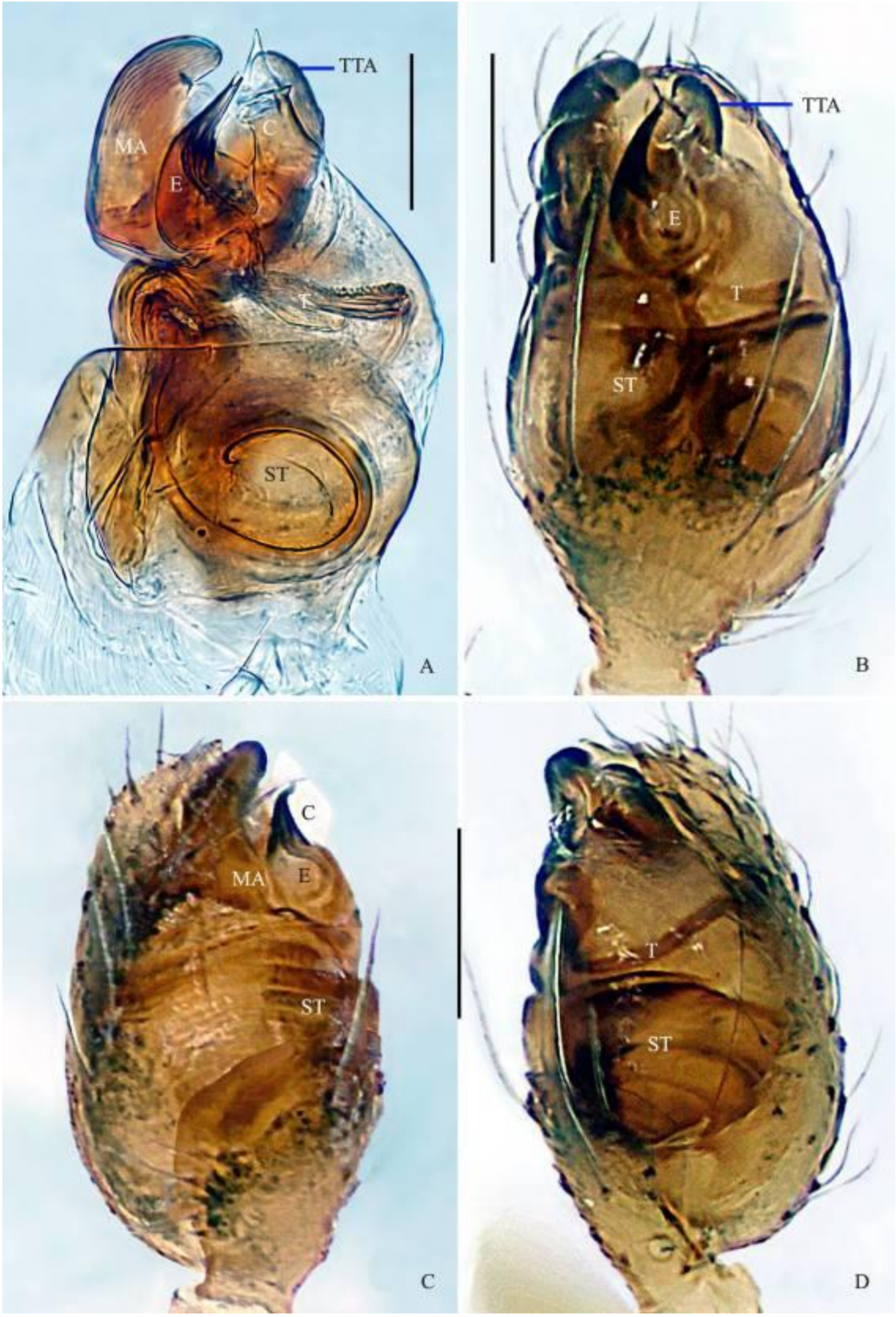

Fig. 6. *Allothymoites sculptilis* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.05 mm.

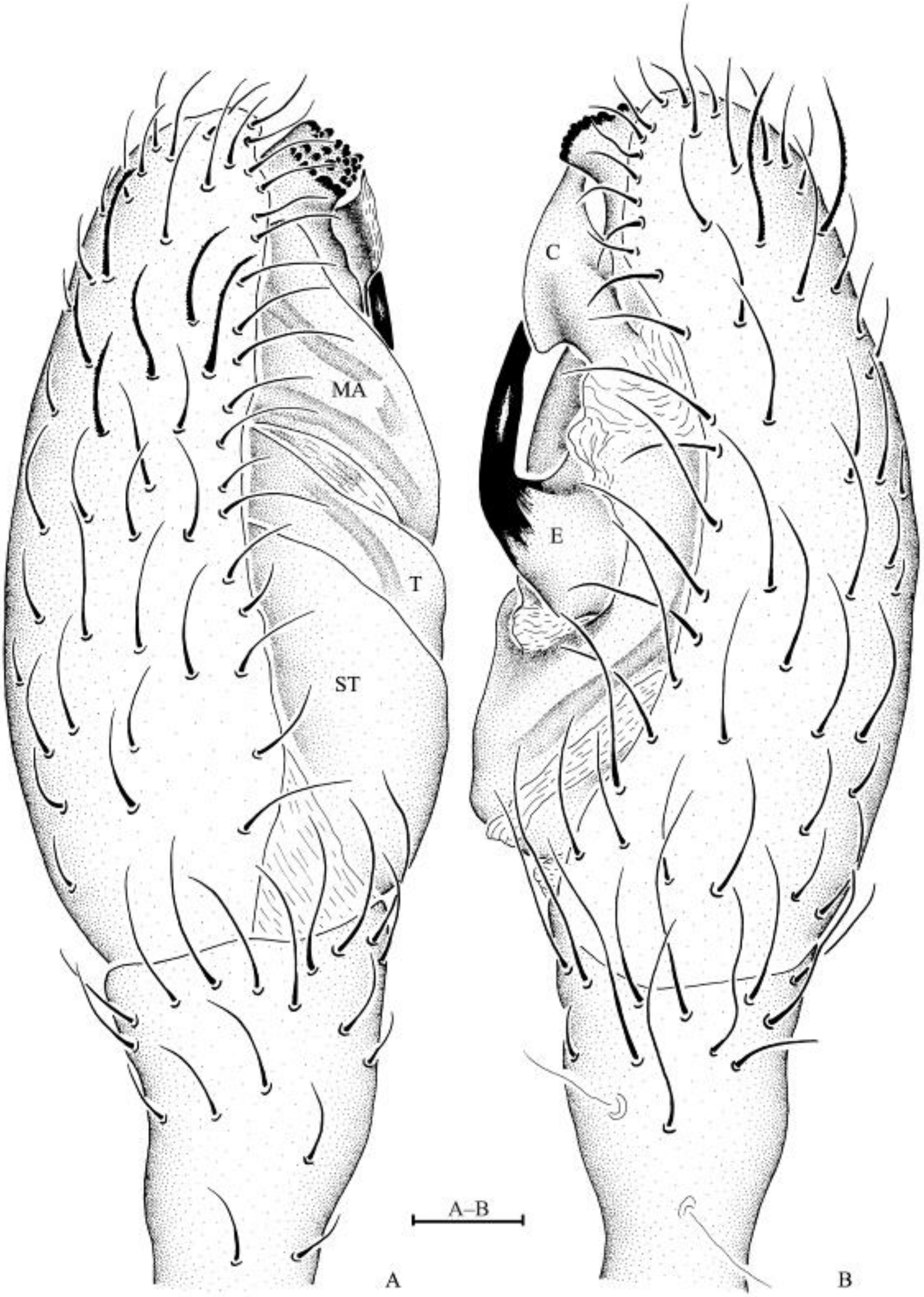

Fig. 7. *Ariamnes columnaceus* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.10 mm.

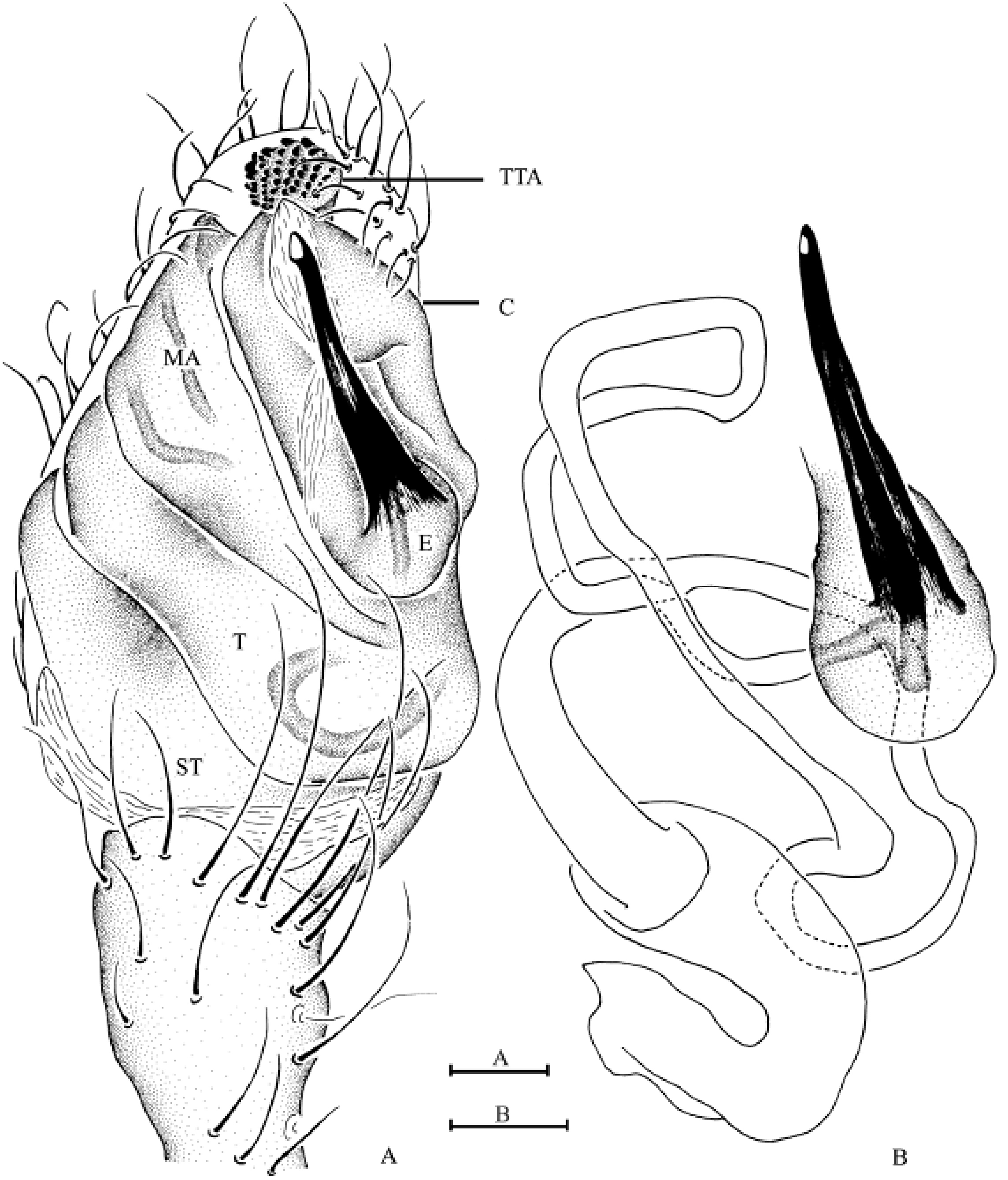

Fig. 8. *Ariamnes columnaceus* **sp. nov.**, holotype male. A. Pedipalpus, ventral view. B. Embolus, ventral view. Scale bars = 0.10 mm.

***Ariamnes columnaceus* sp. nov.** (Figs 7–9)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.390'N, 101°16.811'E), 10 August 2007, Guo Zheng leg.

Etymology. The specific name derives from the Latin adjective *columnaceus* and means columned, in reference to the column-shaped tegular apophysis.

Diagnosis. The new species is similar to *A. cylindrogaster*, but can be distinguished by the cymbium without divarication; the embolus longer than the latter species (Yoshida, 2003a); conductor membranous, edge sclerotized lightly;

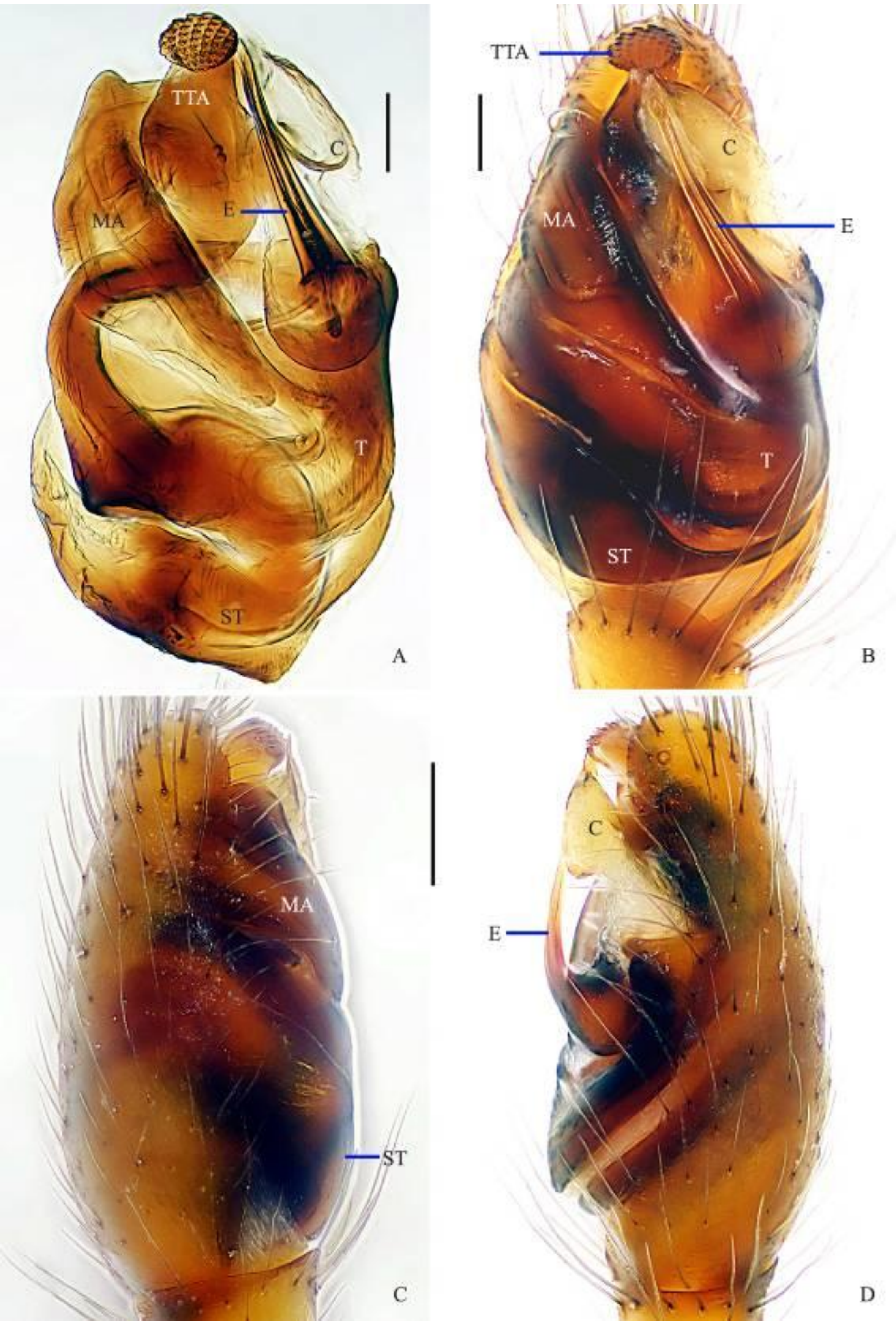

Fig. 9. *Ariamnes columnaceus* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

tegular apophysis column-shaped.

Male. Total length 22.75. Prosoma 2.25 long, 1.00 wide, flat, unmodified, yellow, with black stripes. Sternum 1.15 long, 0.70 wide, yellow, with dark spots. Opisthosoma 20.50 long, 0.70 wide, pale, with black stripes, white spots, posterior part vermiform, black, with dense spines, large colulus. Eye measurements: AME 0.13, ALE 0.08, PME 0.09, PLE 0.09, AME-AME 0.13, AME-ALE 0.03, PME-PME 0.09, PME-PLE 0.03. Clypeus height about 2 times AME diameter, yellow, with row of setae, tiny apophysis. Chelicerae: yellow, without spot, with 1 anterior tooth, 1 posterior tooth; fangs long, slender. Endites: 0.46 long, 0.25 wide, yellow with brown pro-edges. Labium fused with sternum, 0.13 long, 0.31 wide, with 6 setae, yellow. Leg measurements: I 16.95 (5.60, 0.75, 4.50, 4.50, 1.60); II 8.95 (3.00, 0.50, 2.35, 2.00, 1.10); III 5.65 (1.65, 0.40, 1.90, 1.00, 0.70); IV 13.85 (4.75, 0.55, 3.30, 3.50, 1.75). Leg I coxa yellow, with black spot; femur-tibia yellow with black spots; metatarsus and tarsus yellow, with black ring; femur and patella without spine; tibia with 3 trichobotria; metatarsus and tarsus with many trichobotria. Legs II–IV similar to leg I. Pedipalpus (Figs 7A–B, 8A–B, 9A–D): tibia yellow with 2 trichobothria; cymbium yellow, without spot; paracymbium hooked; subtegulum center depressed; tegulum connected with median apophysis; median apophysis large, smooth, without apophysis; embolus long, without basal process; conductor membranous, with sclerotized tip; tegular apophysis columned, with many small apophyses.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

Ariamnes cylindrogaster **Simon, 1889**

Ariamnes cylindrogaster Simon, 1889: 251; Lee, 1966: 26, figs 5i–m; Hu, 1984: 157, figs 161.1–3.

Argyrodes cylindrogaster Chen & Zhang, 1991: 153, figs 149.1–5; Hu *et al*., 1991: 40, figs 8–13; Zhu & Song, 1991: 133, figs 4A–D; Song *et al*., 1993: 853, figs 3A–D; Song *et al*., 1997: 1707, figs 5a–d; Zhu, 1998: 198, figs 128A–D; Song *et al*., 1999: 100, figs 45G–H, M.

Material examined. China, Yunnan, 1♀, Xishuangbanna, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°54.772'N, 101°16.043'E), 19–25 February 2007, Guo Zheng leg.

Distribution. China (Fujian, Gansu, Guizhou, Hainan, Henan, Hunan, Sichuan, Taiwan, Yunnan, Zhejiang); Japan, Korea, Laos.

Ariamnes petilus **sp. nov.** (Figs 10–12)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.607'N, 101°17.005'E), 28 July 2007, Guo Zheng leg.

Etymology. The specific name derives from the Latin adjective *petilus* and means slender, in reference to pedipalpi pale, effeminate, slender than other species of the genus.

Diagnosis. Members of the new species are similar to those of *A. laau*, but can be distinguished by having the tegular apophysis large, with tiny outgrowth; conductor sheetlike, membranous, enveloping curving embolus.

Male. Total length 15.20. Prosoma 3.25 long, 1.20 wide, flat, unmodified, pale, with 2 black stripes, black edge. Sternum 1.30 long, 0.75 wide, with grey spots. Opisthosoma 11.95 long, 0.85 wide, pale, with black, white spots, posterior part vermiform, black, with dense (fix throughout!!) spines, with large colulus. Eye measurements: AME 0.11, ALE 0.09, PME 0.09, PLE 0.08, AME-AME 0.15, AME-ALE 0.06, PME-PME 0.13, PME-PLE 0.06. Clypeus height about 2.22 times AME diameter, pale, with apophysis, long setae. Chelicerae: pale, without tooth; fangs long, slender. Endites: 1.00 long, 0.50 wide, pale with brown pro-edges. Labium fused with sternum, 0.23 long, 0.30 wide, with 8 setae, pale. Leg measurements: I 19.50 (6.65, 0.75, 5.25, 5.10, 1.75); II 10.65 (3.65, 0.50, 3.00, 2.25, 1.25); III 5.70 (2.10, 0.35, 1.35, 1.20, 0.70); IV 17.00 (6.35, 0.60, 4.30, 4.00, 1.75). Leg I coxa pale, with black spot; femur pale, with black spots; patella pale, with black spots; tibia pale to grey, with brown spots; metatarsus pale to grey, with brown spots; tarsus grey; femur without spine, patella with 1 spine, tibia with many trichobothria, metatarsus and tarsus without spine. Legs II–IV similar to leg I, tarsus II–IV pale, with black rings. Pedipalpus (Figs 10A–B, 11A–B, 12A–D): tibia pale, with black spot, 3 trichobothria; cymbium yellow, with black spots; paracybium hooked; subtegulum narrow; tegulum large, conjoined with median apophysis; median apophysis smooth, with acute angle; embolus curved, without apophysis; conductor surrounding distal part of embolus; tegular apophysis large, with many distal apophyses.

Female. Unknown.

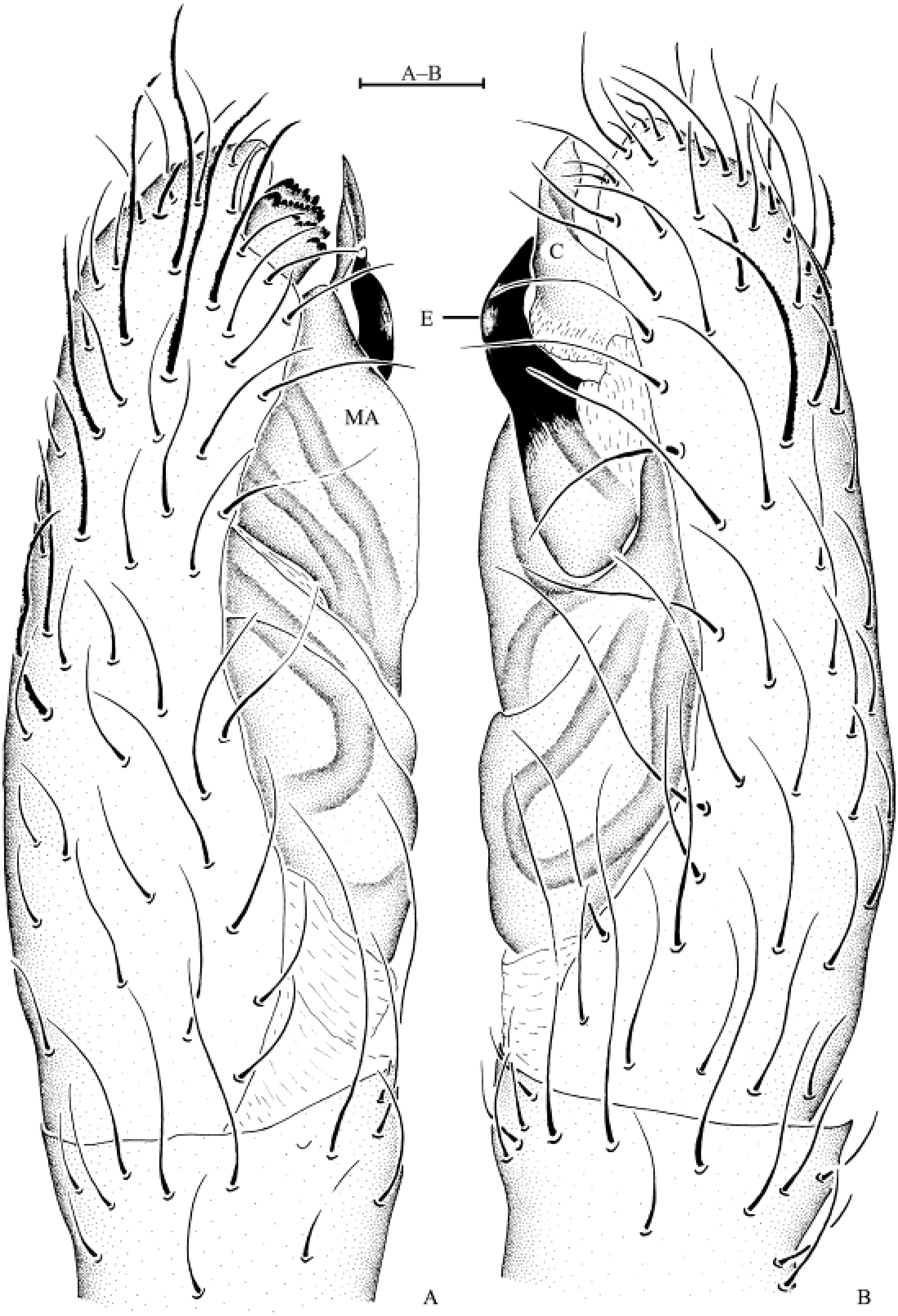

Fig. 10. *Ariamnes petilus* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.10 mm.

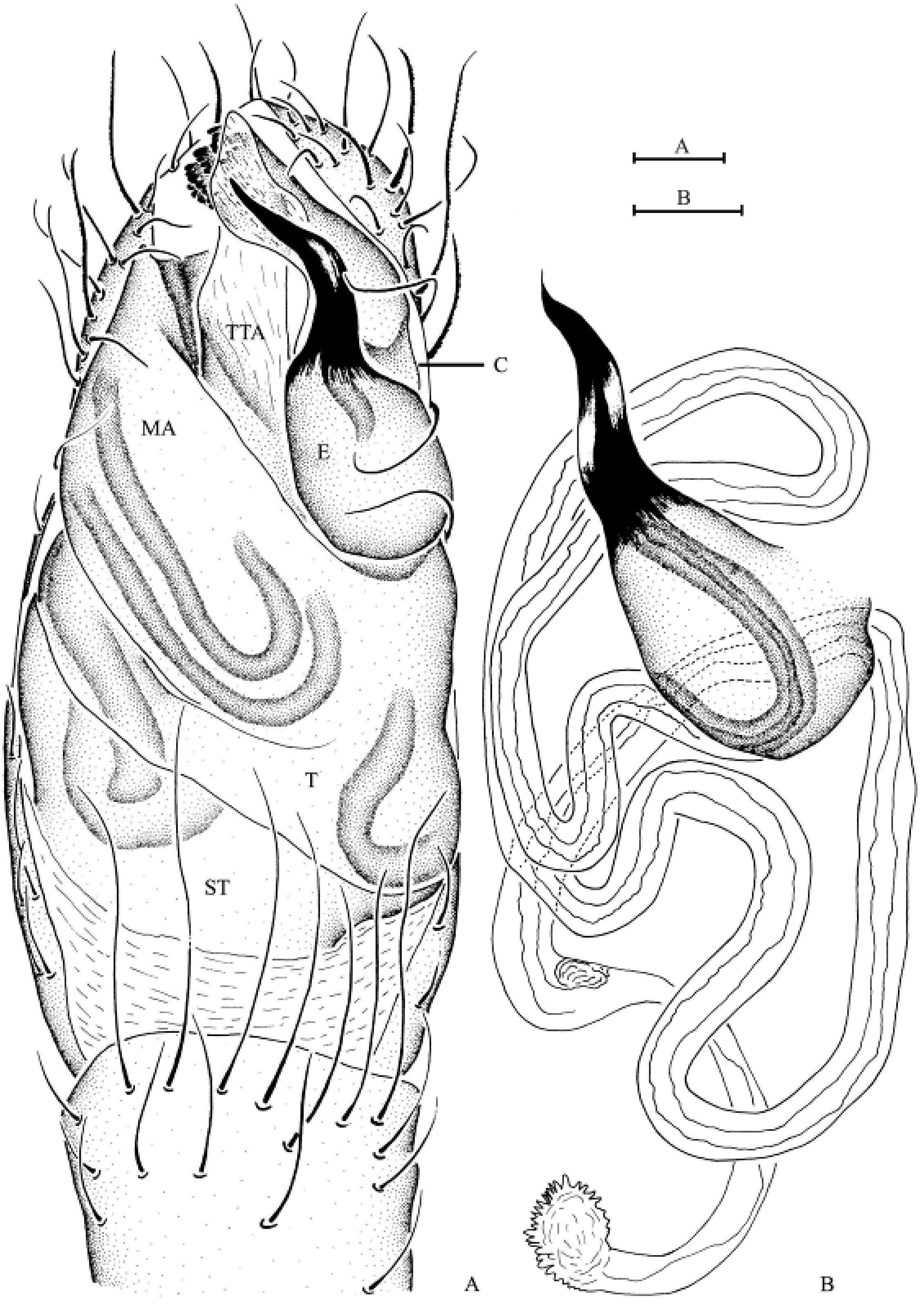

Fig. 11. *Ariamnes petilus* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view. Scale bars = 0.10 mm.

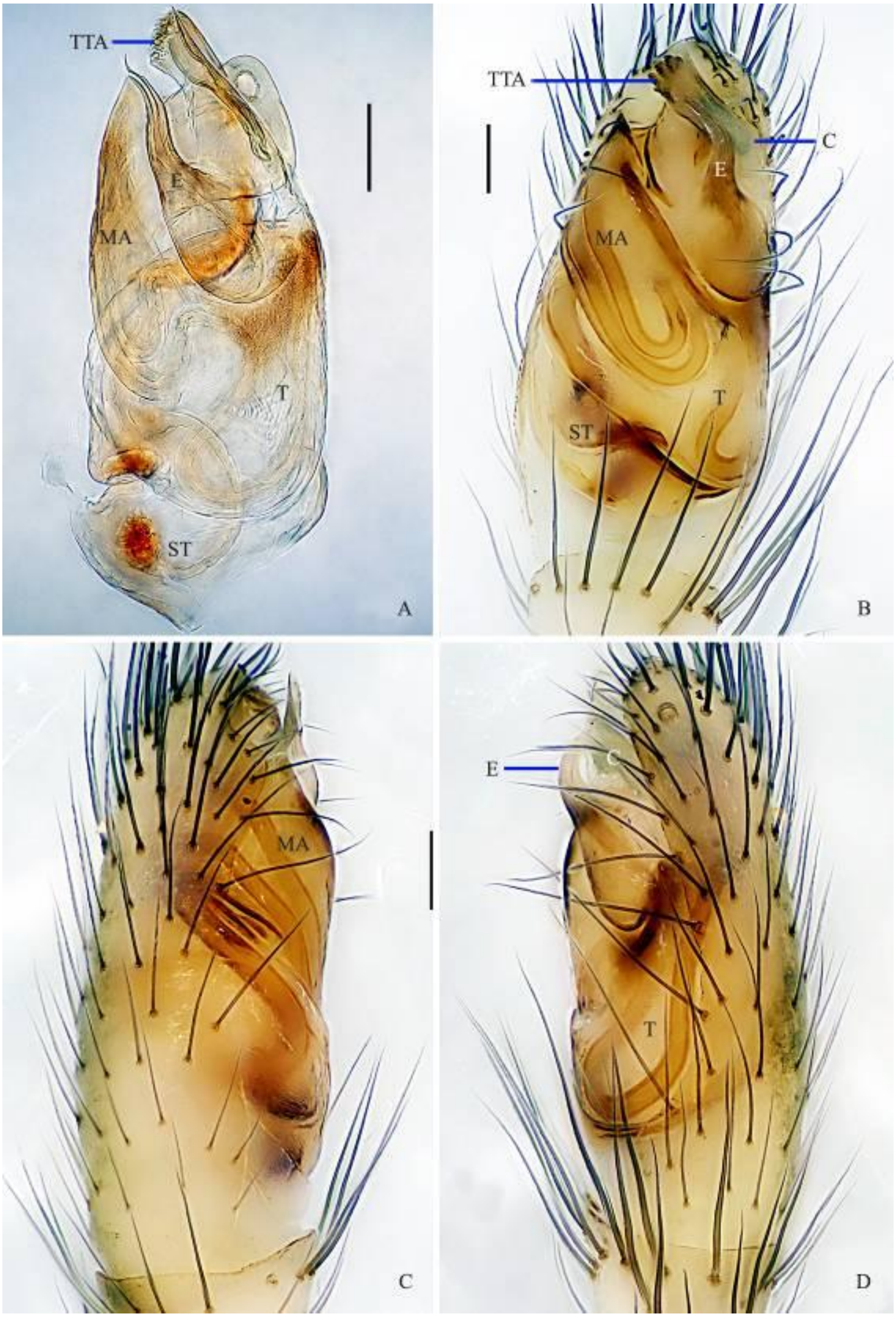

Fig. 12. *Ariamnes petilus* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view. C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

Distribution. Only known from type locality (Yunnan).

3.4 Genus *Carniella* Thaler & Steinberger, 1988

Diagnosis. Members of this genus differ from those of (fix throughout!!) similar genera by having a body length about 1 mm; clypeus with an outgrowth; trichobothrium of metatarsus III absent; male pedipalpus with retrobasal “paracymbium”; female with an unpaired genital opening (Wunderlich, 2008).

Carniella foliosa sp. nov. (Figs 13–15)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, primary tropical seasonal rainforest (21°57.445'N, 101°12.997'E), 5–12 January 2007, Guo Zheng leg.

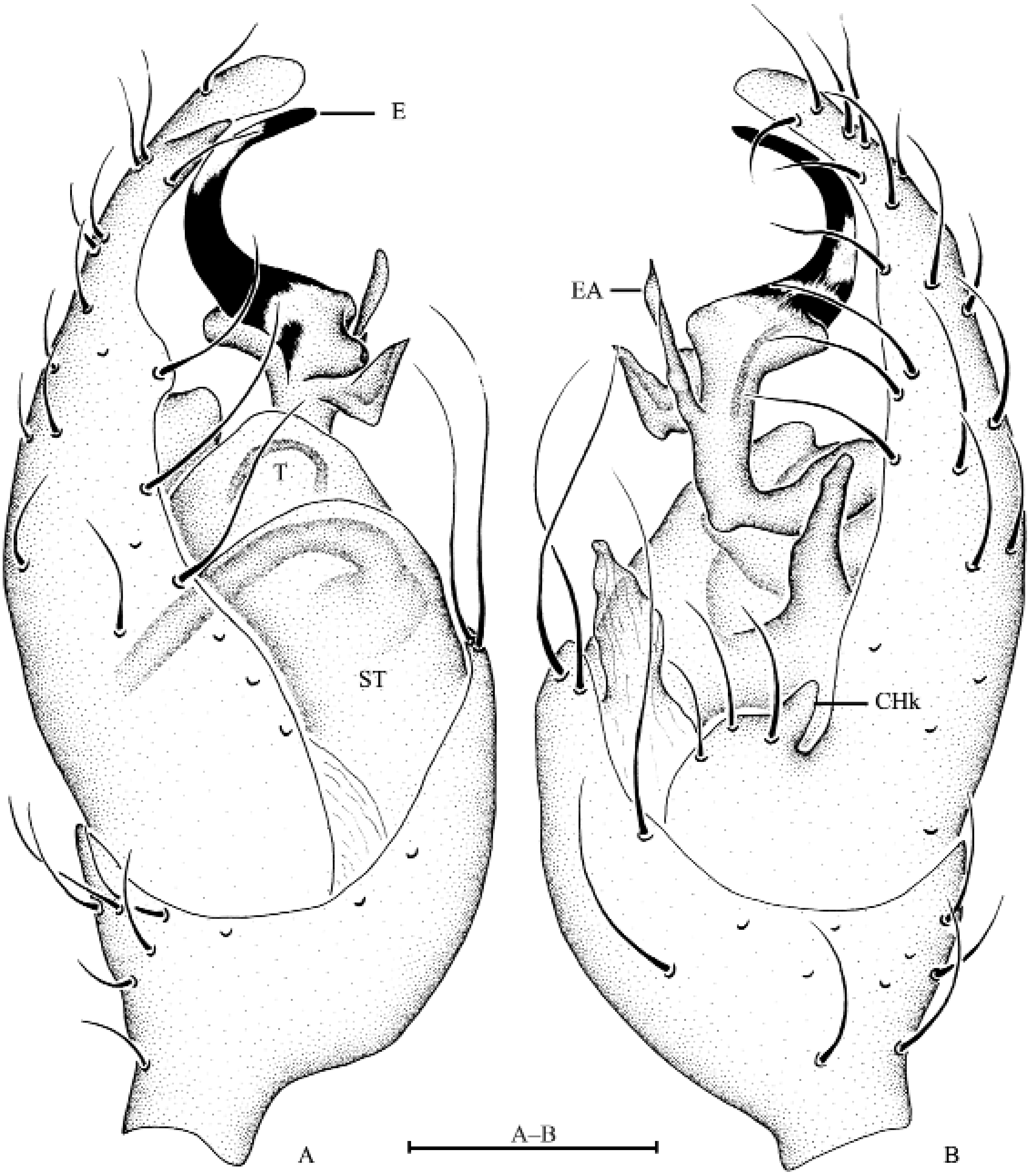

Fig. 13. *Carniella foliosa* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.10 mm.

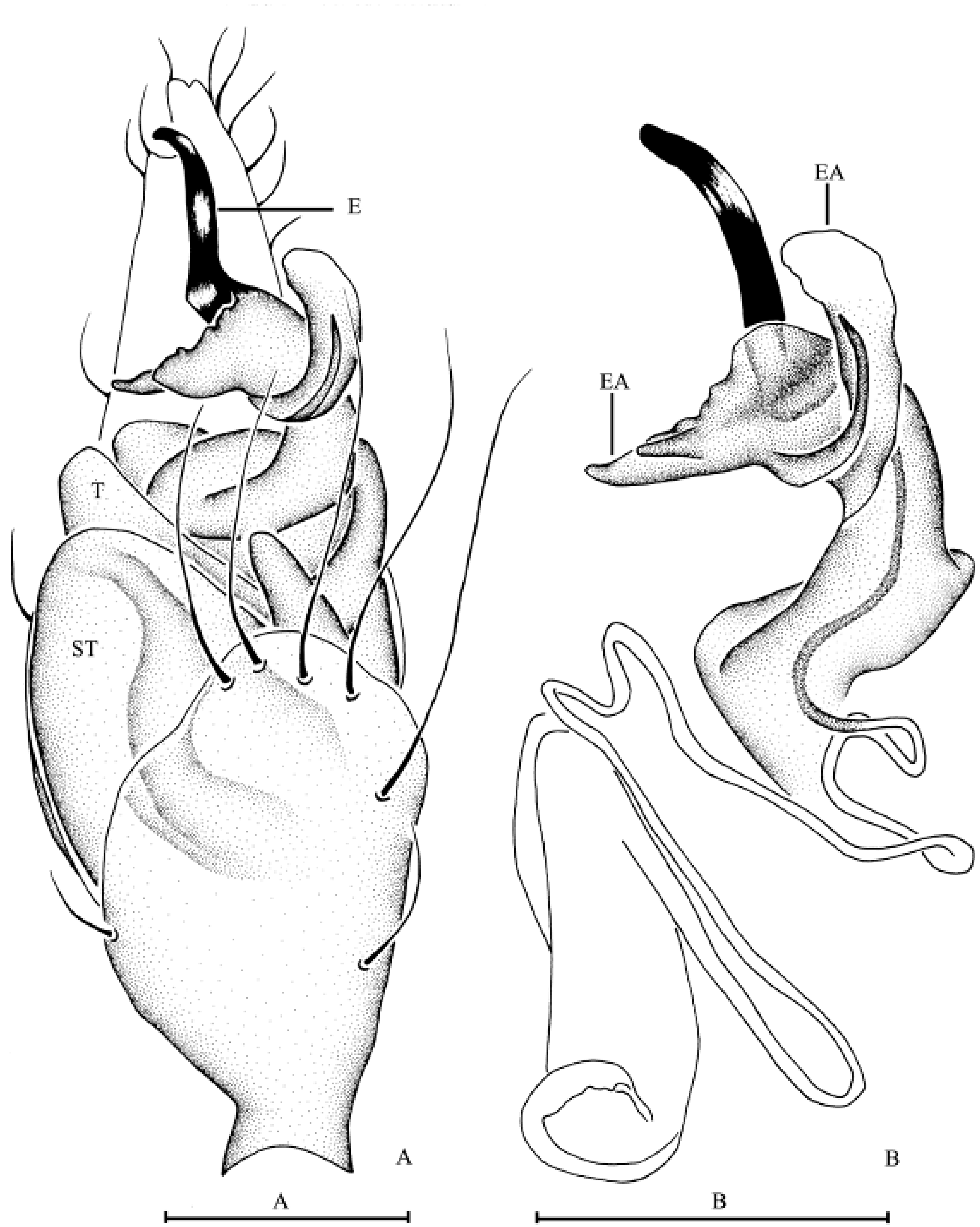

Fig. 14. *Carniella foliosa* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view. Scale bars = 0.10 mm.

Etymology. The specific name derives from the Latin adjective *foliosus* and means leafy, in reference to the embolus apophysis triangular with zigzag edge, shaped like a leaf.

Diagnosis. The new species is similar to *C. schwendingeri*, but can be distinguished by the embolus with a leafy apophysis; tegulum with a long apophysis.

Male. Total length 1.08. Prosoma 0.44 long, 0.44 wide, flat, yellow, with 6 long setae, membranous brim. Sternum

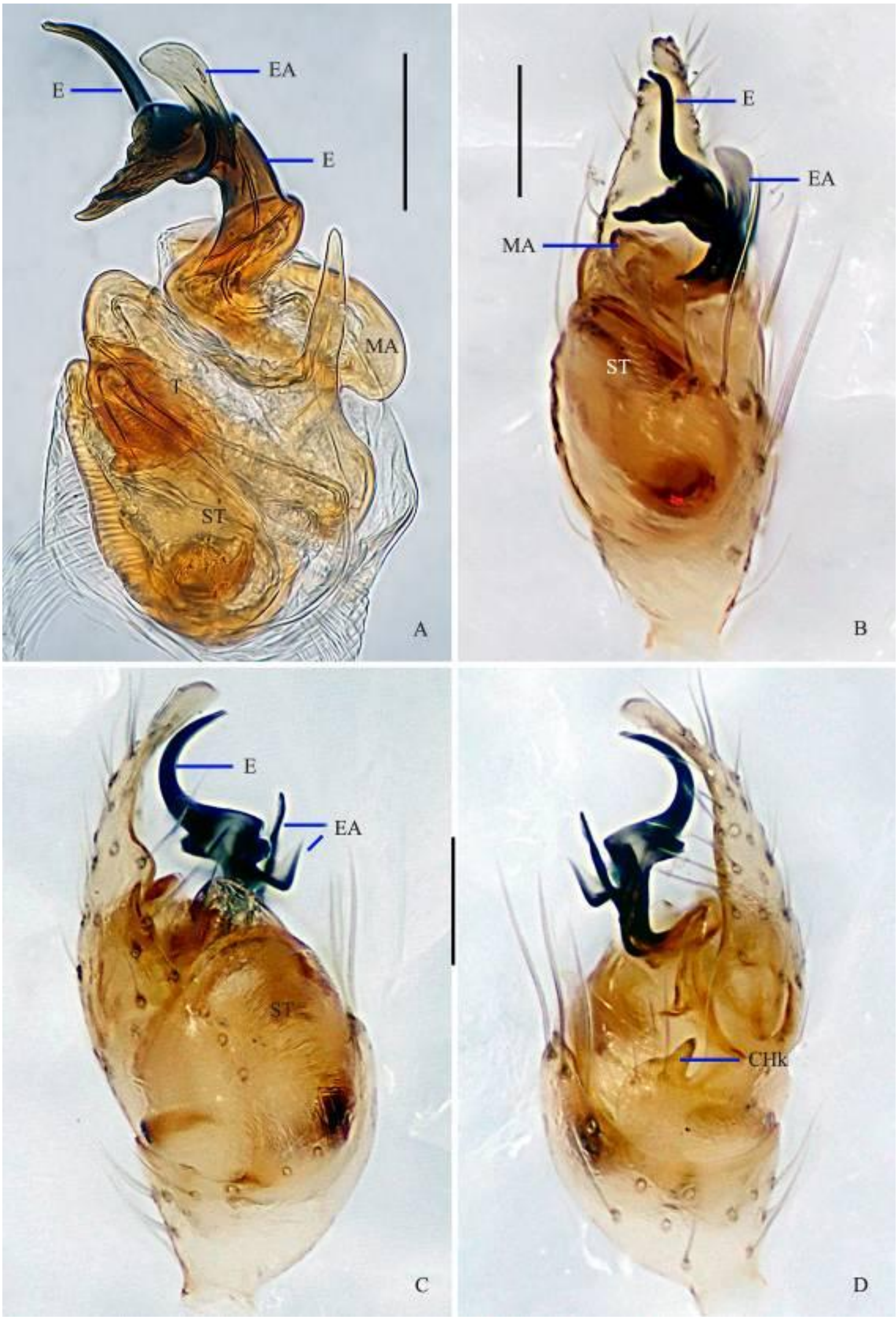

Fig. 15. *Carniella foliosa* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.05 mm.

0.30 long, 0.30 wide, pale yellow, with black edge and slender setae. Opisthosoma 0.63 long, 0.44 wide, grey, with slender setae, without colulus. Eye measurements: AME 0.03, ALE 0.05, PME 0.06, PLE 0.05, AME-AME 0.03, AME-ALE 0.05, PME-PME 0.08, PME-PLE 0.04. Clypeus height about 5.83 times AME diameter, pale yellow. Clypeal projection conspicuous, with many little setae. Chelicerae: pale yellow, without spot, with 1 anterior tooth; fangs long, slender. Endites: 0.15 long, 0.09 wide, pale yellow with brown pro-edges. Labium fused with sternum, 0.06 long, 0.13 wide, with 4 long setae, pale yellow. Leg measurements: I 1.48 (0.43, 0.13, 0.38, 0.25, 0.29); II 1.37 (0.41, 0.13, 0.38, 0.20, 0.25); III 0.99 (0.28, 0.11, 0.20, 0.15, 0.25); IV 1.23 (0.38, 0.13, 0.25, 0.19, 0.28). Leg I pale, without spot; femur with 1 spine, patella with 1 distal spine, tibia - tarsus without spine, with long setae. Legs II–IV similar to leg I. Pedipalpus (Figs 13A–B, 14A–B, 15A–D): tibia yellow, without trichobothrium; cymbium yellow, with distal divarication; paracymbium hooked, distinguishable in retrolateral view; subtegulum broad; tegulum confined, with long protrusion; median apophysis smooth, without protrusion; embolus long, curved, with 3 apophyses, one apophysis triangular, with tiny outgrowth and zigzag edge.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

Carniella forficata sp. nov. (Figs 16–18)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun, secondary tropical seasonal rainforest (21°55.428'N, 101°16.441'E), 19–25 September 2007, Guo Zheng leg.

Paratypes 2♂, same data as holotype.

Etymology. The specific name derives from the Latin adjective *forficatus* and means forked, in reference to bifurcate embolar apophysis.

Diagnosis. The new species is similar to *C. schwendingeri*, but can be distinguished by the embolus with a forked apophysis; males of the latter species have an embolus with 2 apophyses (Knoflach, 1996).

Male (measurements of holotype). Total length 0.95. Prosoma 0.40 long, 0.38 wide, high, yellow, with 6 long setae, membranous brims. Sternum 0.26 long, 0.28 wide, yellow, with black spots. Opisthosoma 0.50 long, 0.35 wide, grey, without colulus. Eye measurements: AME 0.03, ALE 0.05, PME 0.03, PLE 0.04, AME-AME 0.02, AME-ALE 0.03, PME-PME 0.05, PME-PLE 0.03. Clypeus height about 5.17 times AME diameter, yellow. Clypeal projection conspicuous, with many little setae. Chelicerae: yellow, with 1 anterior tooth, 2 spines; fangs long, slender. Endites: 0.15 long, 0.08 wide, yellow with brown pro-edges. Labium fused with sternum, 0.05 long, 0.11 wide, with 4 long setae, yellow with black spots. Leg measurements: I 1.19 (0.34, 0.13, 0.28, 0.19, 0.25); II 0.90 (0.26, 0.09, 0.16, 0.14, 0.25); III 0.91 (0.25, 0.13, 0.18, 0.14, 0.21); IV 1.29 (0.46, 0.13, 0.31, 0.16, 0.23). Leg I pale yellow, without spot; femur with row of spines; patella with 1 distal spine; tibia with many spines; metatarsus shorter than tarsus, with many spines; tarsus with many spines. Legs II–IV similar to leg I. Pedipalpus (Figs 16A–B, 17A–B, 18A–D): tibia pale yellow, without trichobothrium; cymbium yellow, with distal divarication; paracymbium hooked, distinguishable in retrolateral view; subtegulum broad; tegulum confined, without apophysis; median apophysis smooth, without protrusion; embolus similar to head of snake, with forked apophysis.

Variation. Male paratypes. Total length 0.94–0.96; prosoma 0.48–0.50 long, 0.38–0.39 wide; sternum 0.24–0.25 long, 0.24–0.26 wide; opisthosoma 0.44–0.48 long, 0.38–0.40 wide.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

Carniella strumifera sp. nov. (Figs 19–22)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°54.772'N, 101°16.043'E), 1–15 April 2007, Guo Zheng leg.

Paratype 1♀, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°53.823'N, 101°17.072'E), 16–30 April 2007, Guo Zheng leg.

Etymology. The specific name derives from the Latin adjective *strumifer* and means bossed, in reference to the prosoma and opisthosoma with many outgrowths.

Diagnosis. Members of (fix throughout) the new species differ from other species of the genus by the tegulum huge; subtegulum confined.

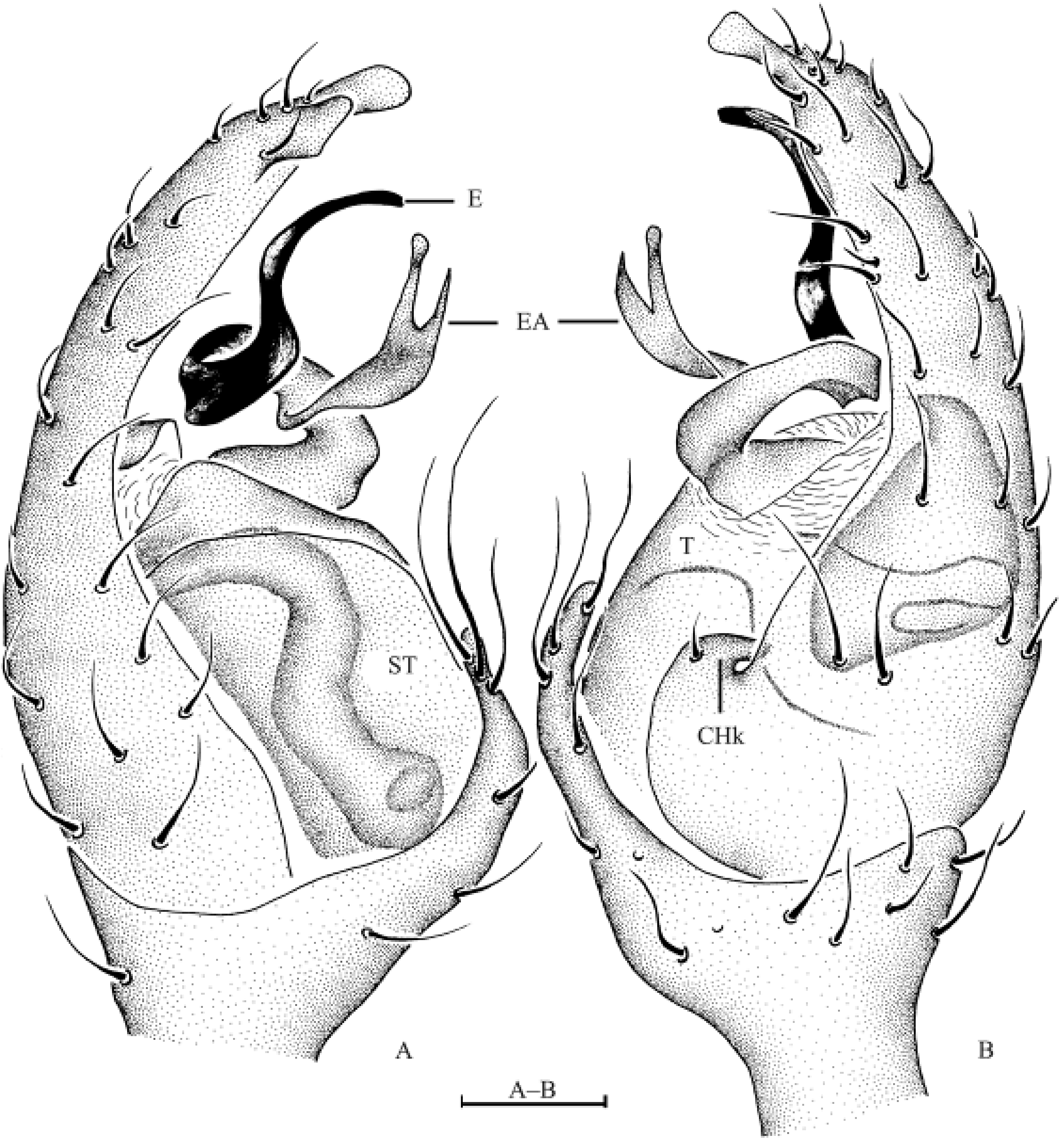

Fig. 16. *Carniella forficata* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.05 mm.

Male. Total length 1.30. Prosoma 0.69 long, 0.59 wide, high, brown, with outgrowth, setae. Sternum 0.40 long, 0.40 wide, yellow with black stripes. Opisthosoma 0.63 long, 0.71 wide, pale, with black spots and setae, without colulus. Eye measurements: AME 0.08, ALE 0.07, PME 0.06, PLE 0.06, AME-AME 0.07, AME-ALE 0.03, PME-PME 0.05, PME-PLE 0.05. Clypeus height about 2.00 times AME diameter, brown, with apophysis. Chelicerae: yellow, without tooth, with 2 spines; fangs long, slender. Endites: 0.28 long, 0.10 wide, yellow with brown pro-edges. Labium fused with sternum, 0.10 long, 0.12 wide, with 6 setae, yellow with black spots. Leg measurements: I 2.28 (0.75, 0.25, 0.56, 0.44, 0.28); II 1.99 (0.63, 0.25, 0.44, 0.38, 0.29); III 1.48 (0.50, 0.20, 0.30, 0.25, 0.23); IV 1.76 (0.56, 0.20, 0.38, 0.34, 0.28). Leg I coxa yellow without spot; femur-tarsus pale yellow, with black spots; femur with 2 rows of spines; patella with 1 spine; tibia-tarsus with 2 rows of spines. Legs II–IV similar to leg I. Pedipalpus (Figs 19A–B, 20A–B, 22A–D): tibia yellow, with black spots, 2 trichobothria; cymbium yellow, with black spots; paracymbium hooded; subtegulum confined; tegulum huge; median apophysis small, connected with cymbium; embolus short, strong,without basal processes;

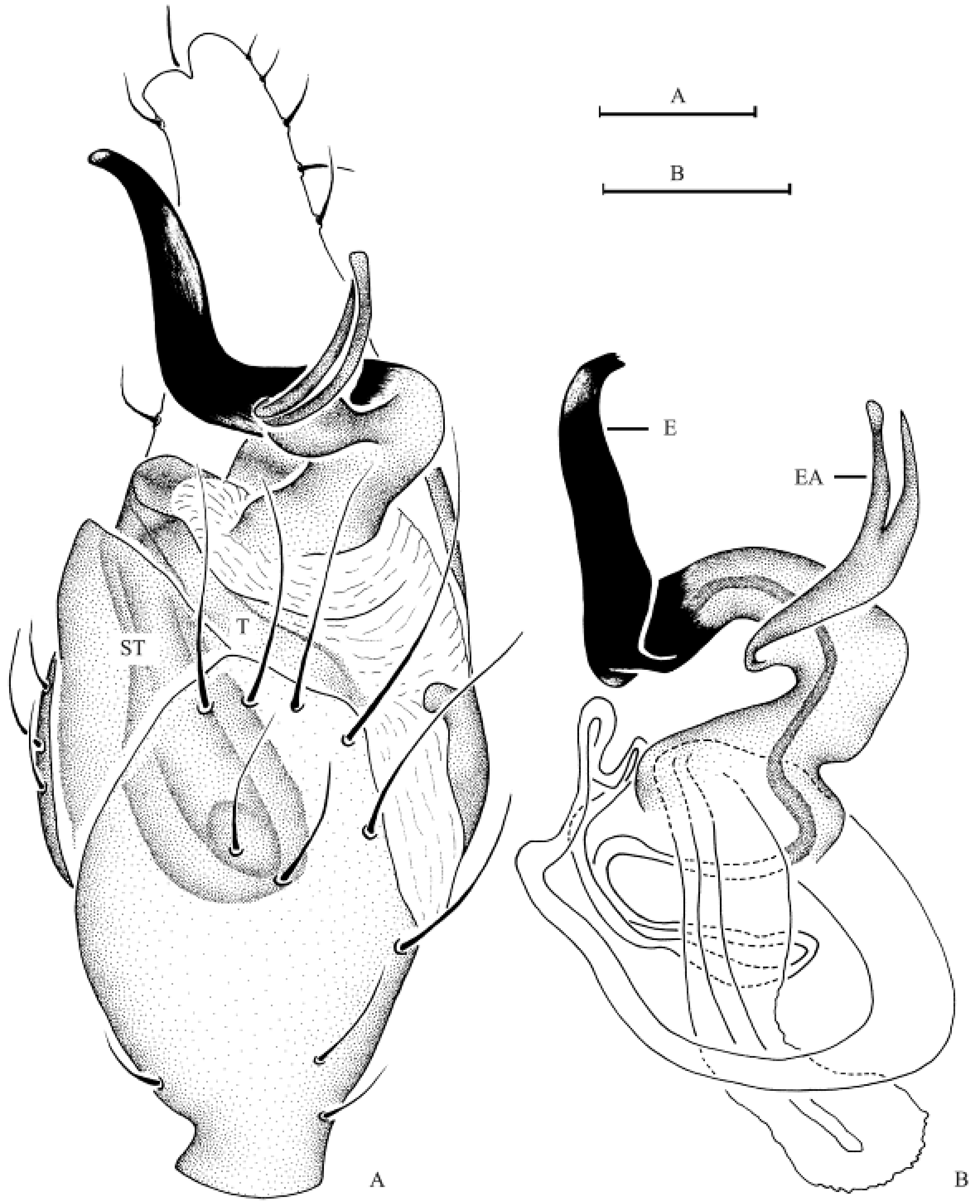

Fig. 17. *Carniella forficata* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view. Scale bars = 0.05 mm.

conductor membranous, fork-shaped ; tegular apophysis developed, distally acute.

Female. Total length 1.70. Prosoma 0.68 long, 0.55 wide, high, brown, with outgrowth, setae. Sternum 0.30 long, 0.30 wide, grey. Opisthosoma 1.00 long, 1.13 wide, pale, with black spots, setae. Legs similar to male. Epigynum (Figs 19C–D, 21A–B): epigynum flat; spermathecae oval, corrugated on surface; copulatory ducts long, curved, outgrow from bottom of spermathecae, opening to anterior margin of atrium; fertilization ducts short, curved.

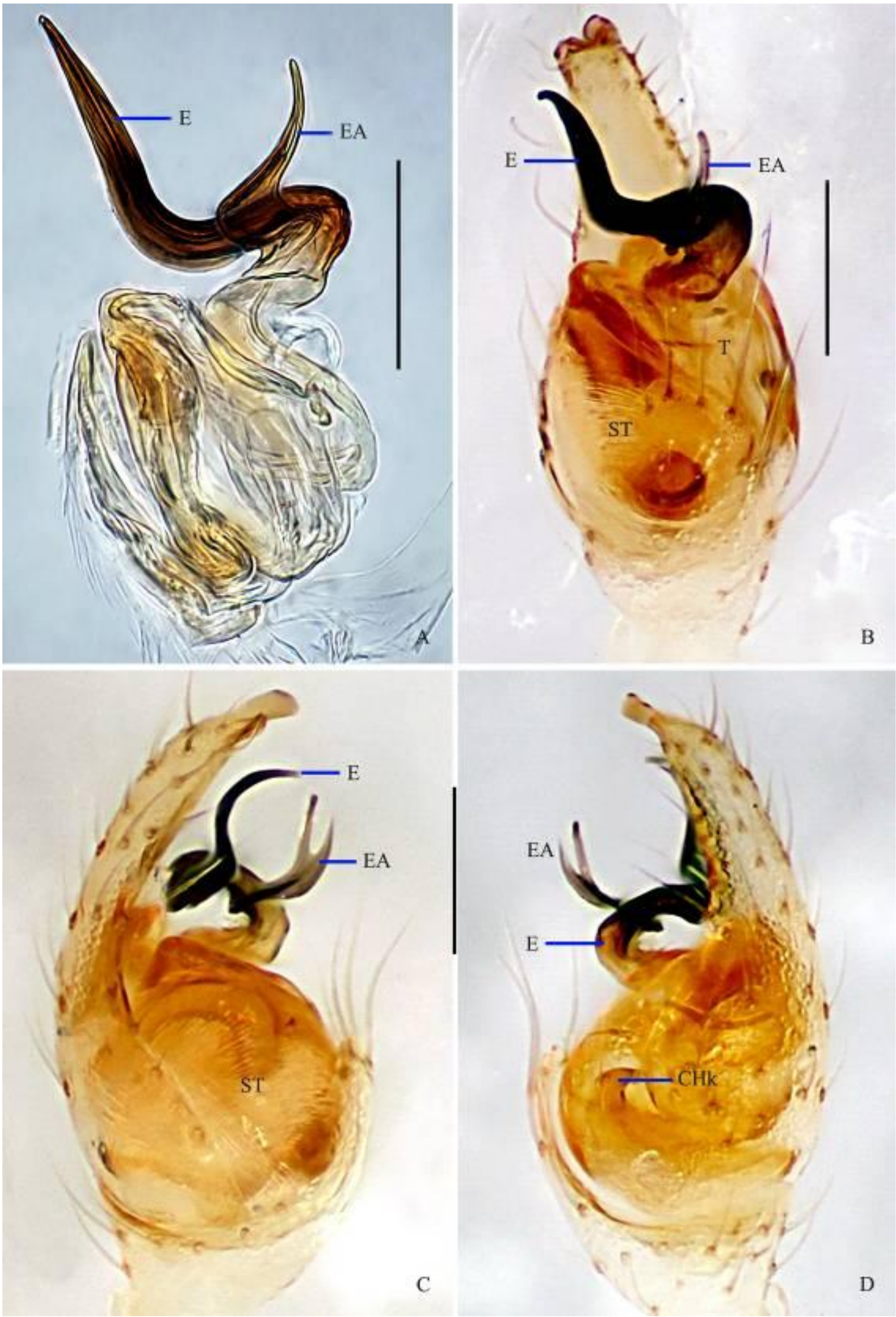

Fig. 18. *Carniella forficata* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view. C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.05 mm.

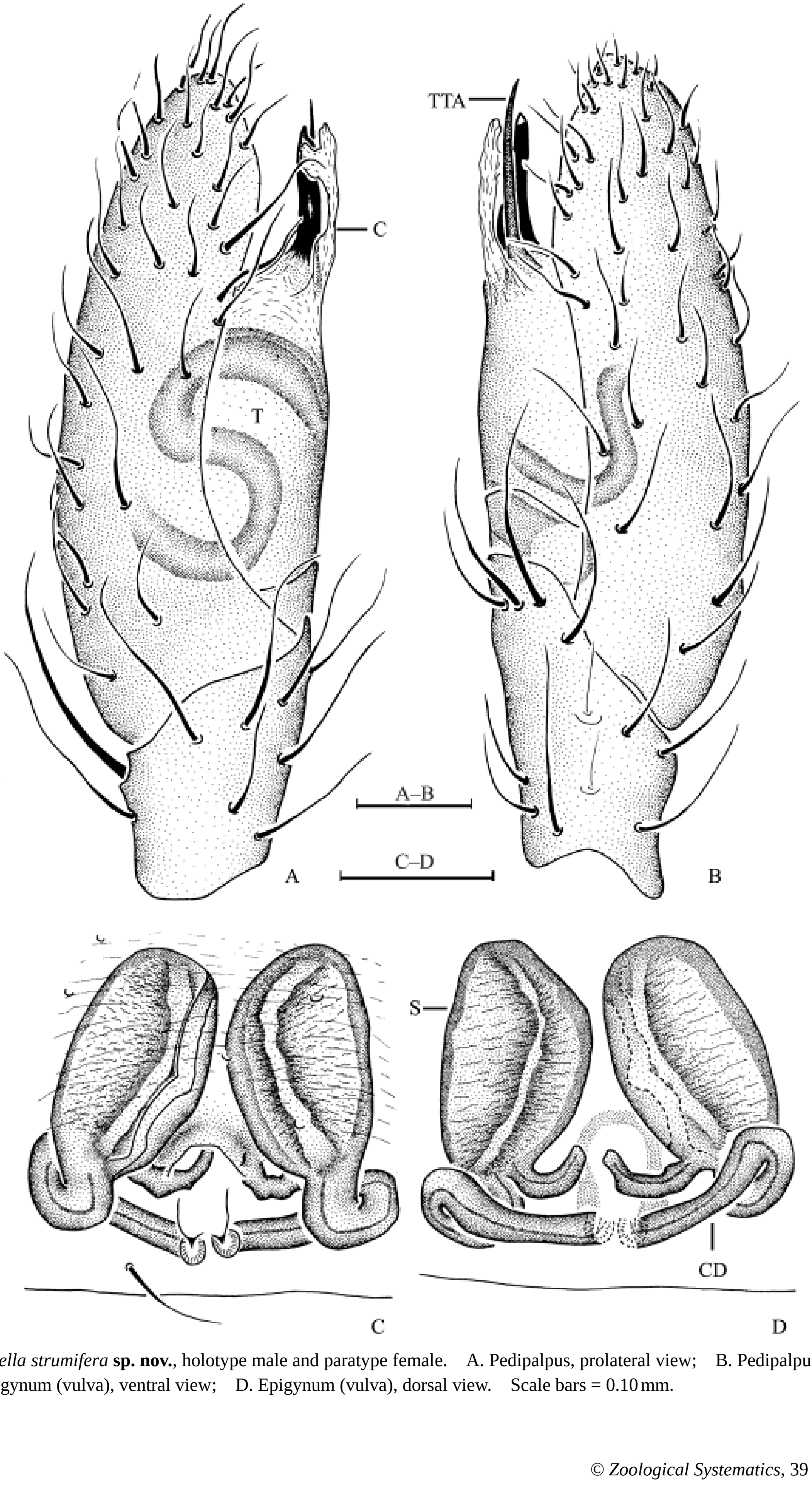

Fig. 19. *Carniella strumifera* **sp. nov.**, holotype male and paratype female. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view; C. Epigynum (vulva), ventral view; D. Epigynum (vulva), dorsal view. Scale bars = 0.10 mm.

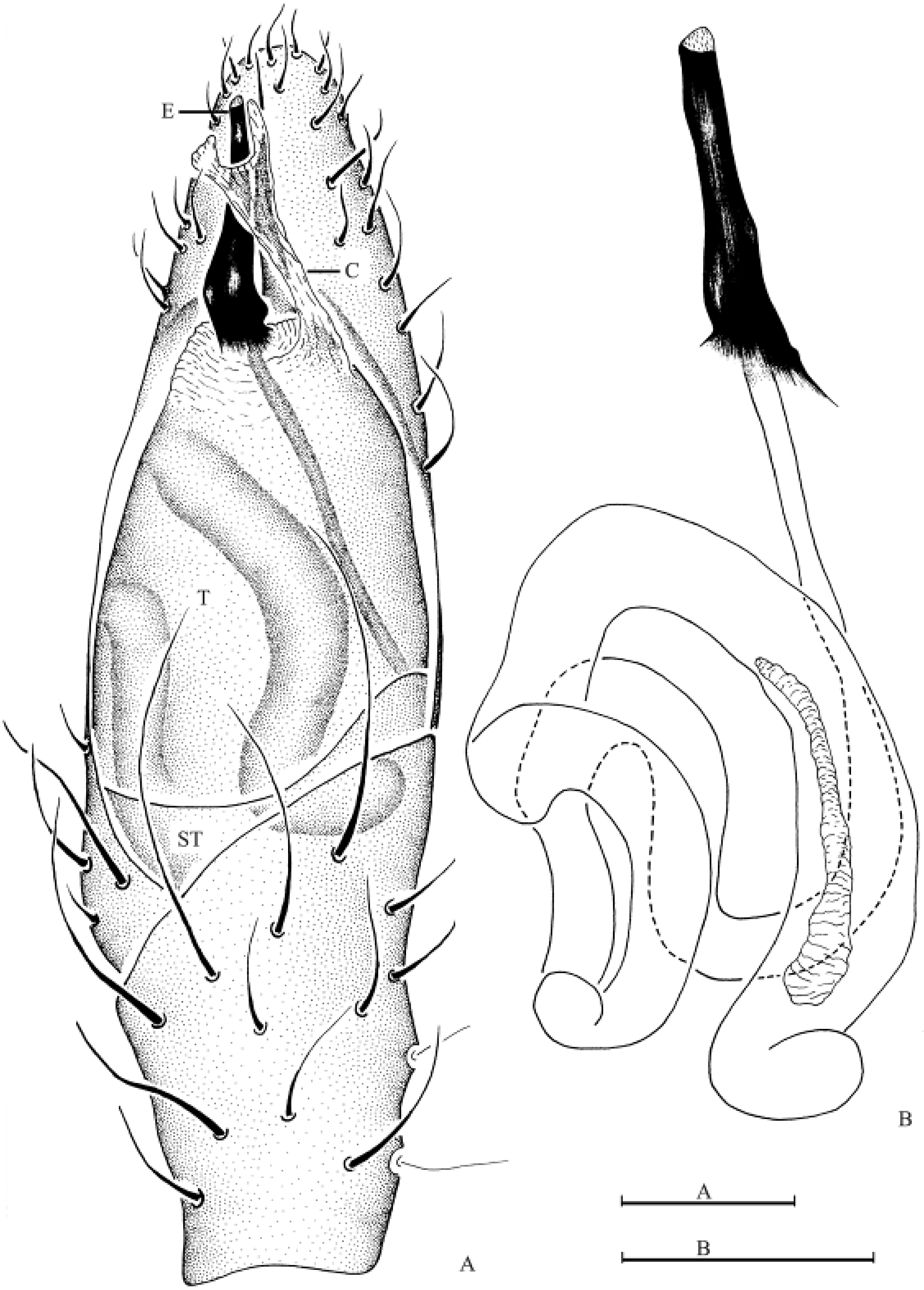

Fig. 20. *Carniella strumifera* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view. Scale bars = 0.10 mm.

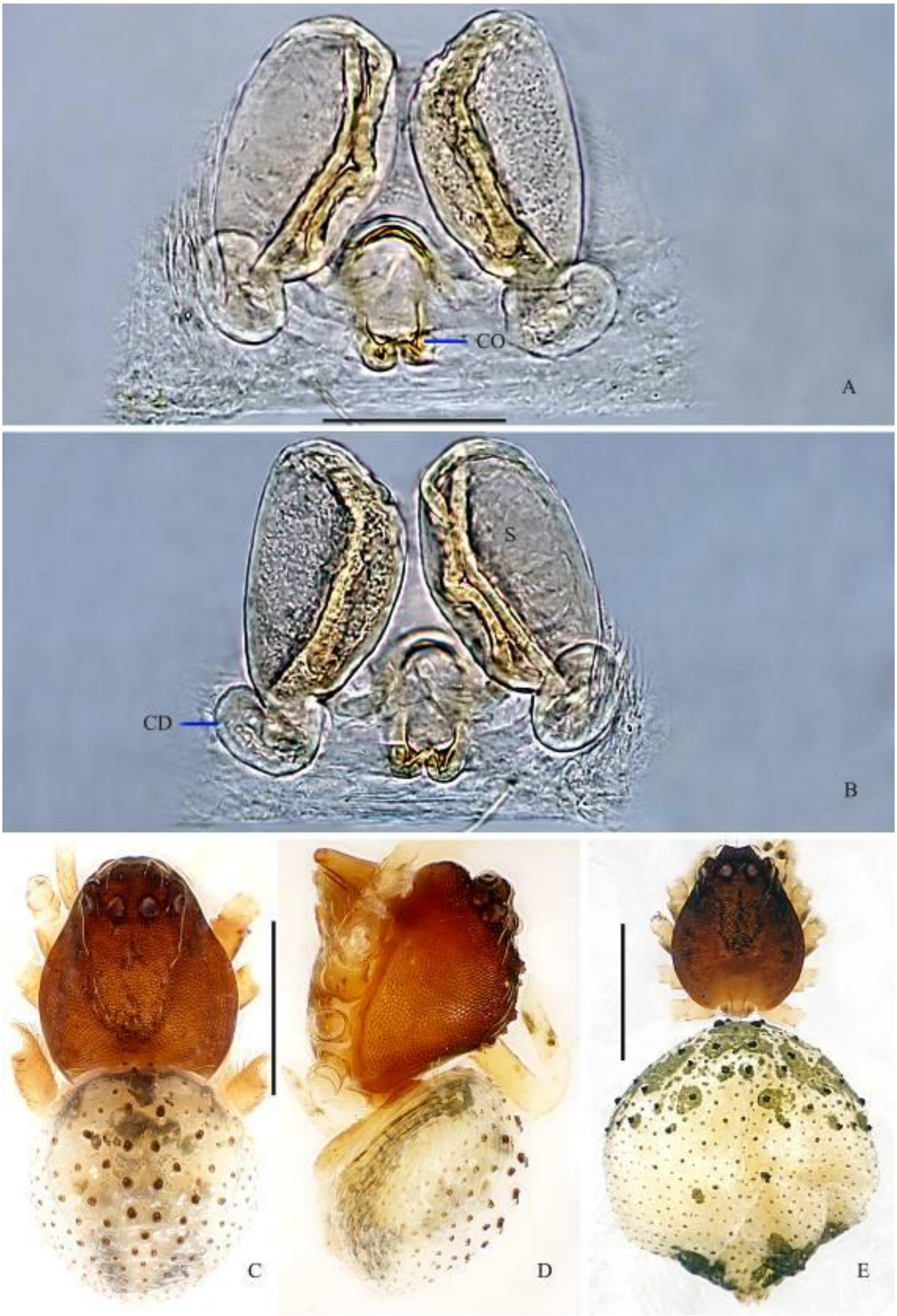

Fig. 21. *Carniella strumifera* **sp. nov.**, holotype male and paratype female. A. Epigynum (vulva), ventral view; B. Epigynum (vulva), dorsal view; C. Male habitus, dorsal view; D. Male habitus, lateral view; E. Female habitus, dorsal view. Scale bars: A–B = 0.10 mm, C–E = 0.50 mm.

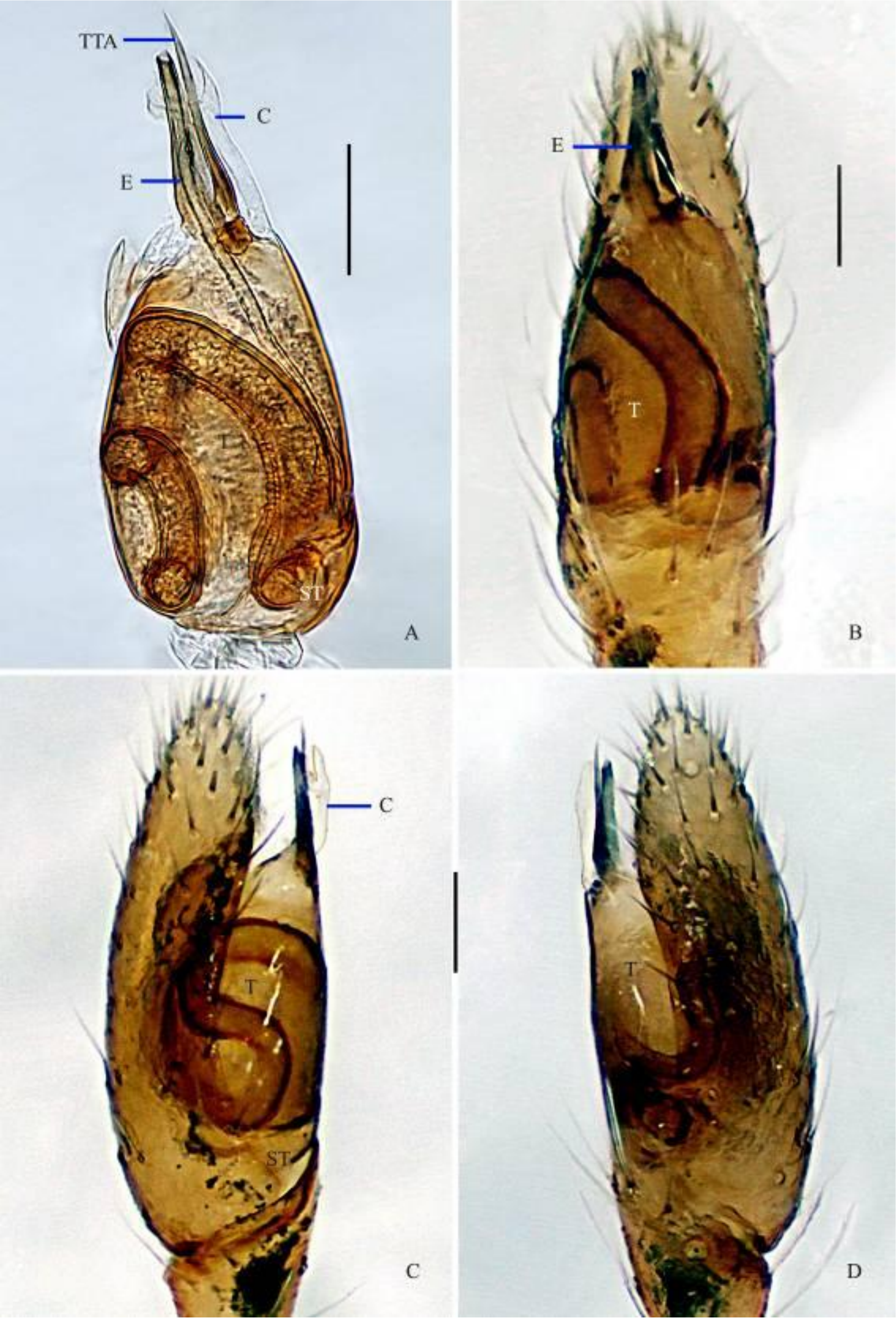

Fig. 22. *Carniella strumifera* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.05 mm.

Distribution. Only known from type locality (Yunnan).

3.5 Genus *Cephalobares* O. P.-Cambridge, 1870

Cephalobares globiceps O. P.-Cambridge, 1870

Cephalobares globiceps O. P.-Cambridge, 1870: 735, pl. 44, fig. 4.

Material examined. China, Yunnan, 2♀, Xishuangbanna, Menglun Nature Reserve, primary tropical seasonal rainforest (21°57.445'N, 101°12.997'E), 10–20 June 2007, Guo Zheng leg.

Distribution. China (Yunnan); Sri Lanka.

Cephalobares yangdingi Gao & Li, 2010

Cephalobares yangdingi Gao & Li, 2010b: 257, figs 1–7.

Material examined. Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.984'N, 101°16.982'E), 10 August 2007, Guo Zheng leg.

Distribution. China (Yunnan).

3.6 Genus *Chrosiothes* Simon, 1894

Chrosiothes sudabides (Bösenberg & Strand, 1906)

Theridion sudabides Bösenberg & Strand, 1906: 145, pl. 10, fig. 186; Hu, 1984: 172, figs 180. 1–4; Song, 1980: 137, figs 73a–d.

Chrosiothes sudabides Feng, 1990: 113, figs 88.1–2; Chen & Gao, 1990: 92, figs 115a–b; Chen & Zhang, 1991: 141, figs 134.1–3; Zhu, 1998: 258, figs 172A–D; Song *et al*., 1999: 103, figs 48H–I, L.

Material examined. China, Yunnan, 1♂, 1♀, Xishuangbanna, Menglun, rubber-tea plantation (about 20 years) (21°54.463'N, 101°15.978'E), 19–26 April 2007, Guo Zheng leg.; 1♀, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°53.823'N, 101°17.072'E), 19–25 January 2007, Guo Zheng leg.

Distribution. China (Sichuan, Zhejiang); Japan, Korea.

3.7 Genus *Chrysso* O. P.-Cambridge, 1882

Diagnosis. The genus differ from other genera by legs often very long, leg I longer than IV; colulus absent; chelicerae often without tooth; male pedipalpus with paracymbium hooked; median apophysis free; female epigynum often with openings indistinct (Levi & Levi, 1962).

Chrysso dentaria sp. nov. (Figs 23–25)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun, teak plantation (21°54.770'N, 101°16.084'E), 12 November 2006, Guo Tang and Zhi-Yuan Yao leg.

Etymology. The specific name derives from the Latin adjective *dentarius* and means "of teeth", in reference to the embolus with a dentate apophysis.

Diagnosis. The new species is very similar to *C. vitra*, but can be distinguished by the embolus stronger than in the latter species, with a basal apophysis.

Male. Total length 1.13. Prosoma 0.58 long, 0.50 wide, high, pale, with black stripes. Sternum 0.28 long, 0.30 wide, pale. Opisthosoma 0.60 long, 0.60 wide, pale, with white spots, 5 apophyses, without colulus. Eye measurements: AME 0.08, ALE 0.06, PME 0.06, PLE 0.06, AME-AME 0.06, AME-ALE 0.03, PME-PME 0.06, PME-PLE 0.03. Clypeus height about 1.67 times AME diameter, pale. Chelicerae: pale yellow, without tooth; fangs short, slender. Endites: 0.13 long, 0.06 wide, pale with long setae, brown pro-edges. Labium fused with sternum, 0.05 long, 0.09 wide, with 2 setae, pale. Leg measurements: I 2.83 (0.80, 0.20, 0.48, 0.94, 0.41); II 1.93 (0.64, 0.19, 0.31, 0.50, 0.29); III 1.45 (0.43, 0.19, 0.30, 0.25, 0.28); IV 2.23 (0.75, 0.19, 0.43, 0.55, 0.31). Leg I coxa yellow, with black spot; femur-tarsus pale, with black rings; femur without spine; patella with 1 distal spine, 1 basal spine; tibia with 2 rhombic spines; metatarsus and tarsus

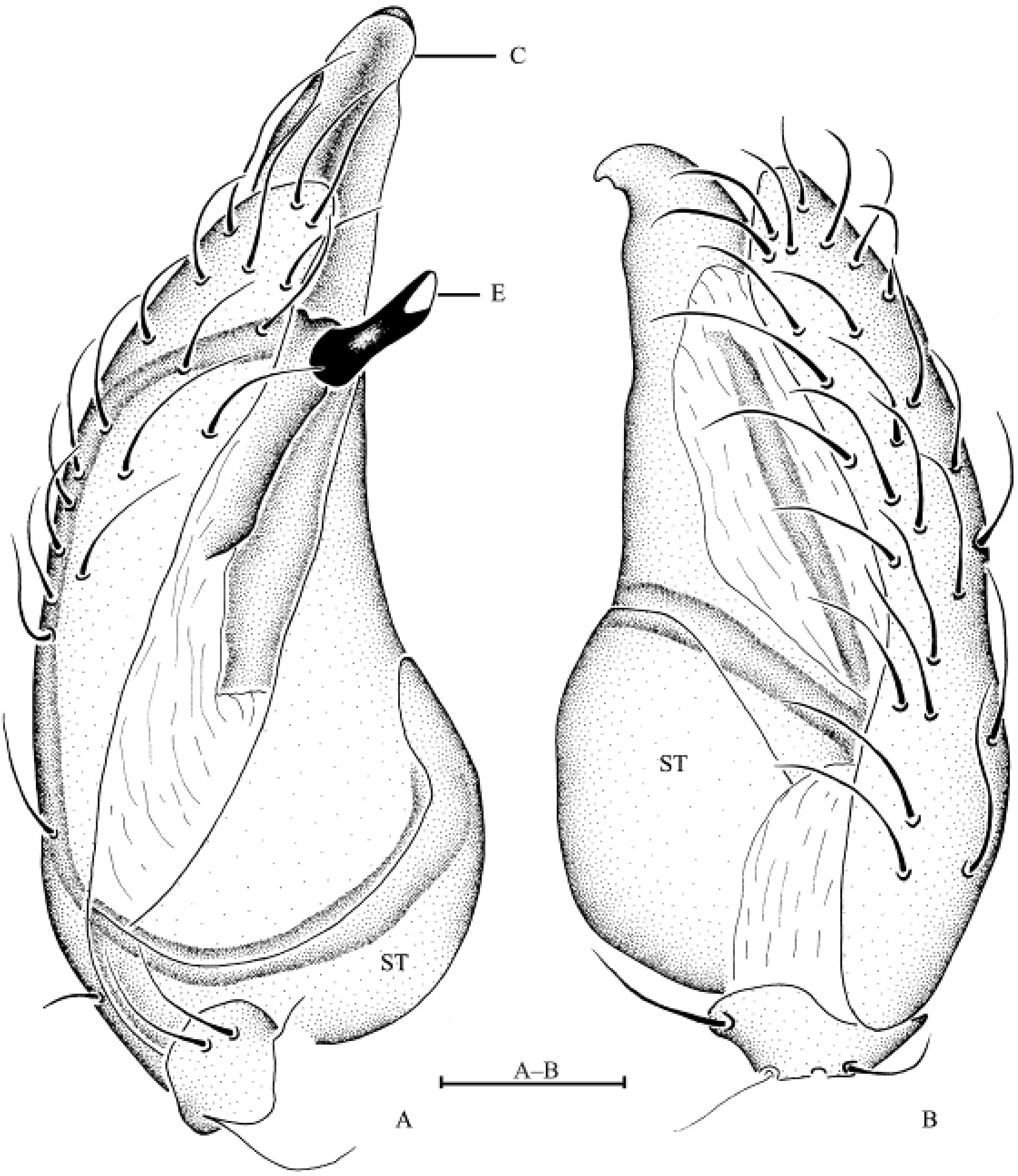

Fig. 23. *Chrysso dentaria* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.10 mm.

without spine. Legs II–IV similar to leg I. Pedipalpus (Figs 23A–B, 24A–B, 25A–D): tibia with 1 trichobothrium; cymbium pale, with black spot; paracymbium hooked; subtegulum rounded; tegulum conjoined with conductor; embolus long, with dentate apophysis.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

Chrysso lingchuanensis Zhu & Zhang, 1992

Chrysso lingchuanensis Zhu & Zhang, 1992: 22, figs 2A–D; Zhu, 1998: 55, figs 29A–F; Song *et al*., 1999: 103, figs 49E–F, M–N.

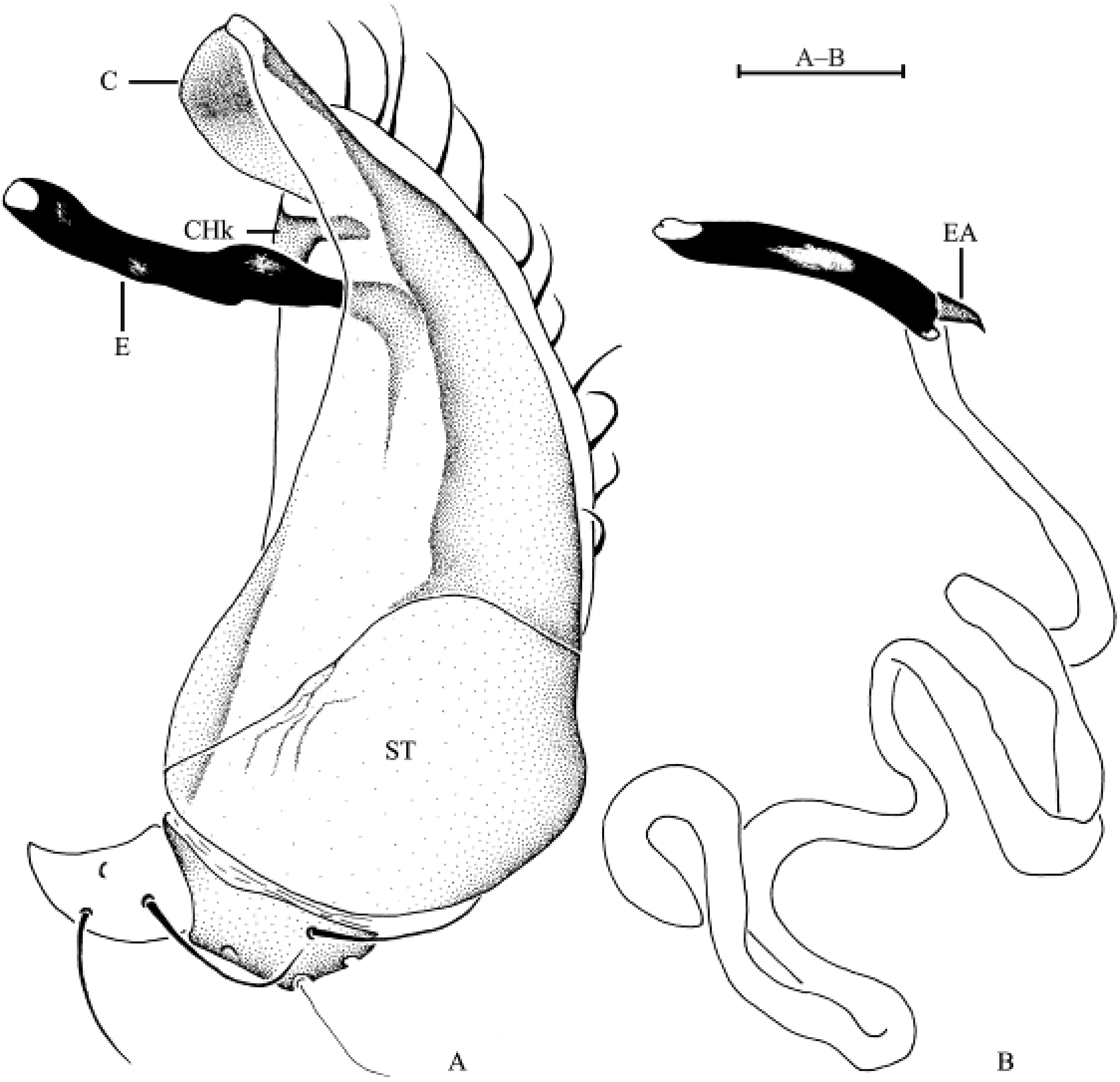

Fig. 24. *Chrysso dentaria* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view. Scale bar = 0.10 mm.

Material examined. China, Yunnan, 3♂, 2♀, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°57.809'N, 101°12.173'E), 4 August 2007, Guo Zheng leg.; 3♂, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°54.767'N, 101°11.431'E), 6 August 2007, Guo Zheng leg.

Distribution. China (Guangdong, Guangxi, Yunnan).

Chrysso octomaculata **(Böesenberg & Strand, 1906)**

Theridion octomaculatum Bösenberg & Strand, 1906: 138, pl. 3, fig. 14, pl. 12, fig. 281; Lee, 1966: 29, figs 6n–o; Song, 1980: 134, figs 71a–f; Hu, 1984: 170, figs 178.1–5; Guo, 1985: 97, figs 2–41. 1–3; Zhu *et al.*, 1985: 103, fig. 89a–d.

Coleosoma octomaculatum Zhang, 1987: 106, figs 86.1–4; Feng, 1990: 120, figs 95.1–5; Chen & Gao, 1990: 93, figs 117a–b; Chen & Zhang, 1991: 137, figs 129.1–6; Zhao, 1993: 205, figs 95a–d; Zhu, 1998: 72, figs 42A–D; Song *et al.*, 1999: 110, figs 52E–F, I; Hu, 2001: 559, fig. 376.4; Song *et al.*, 2001: 99, figs 47A–D.

Chrysso octomaculata Yoshida, 2009b: 376, figs 198–200.

Material examined. China, Yunnan, 4♂, 9♀, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane

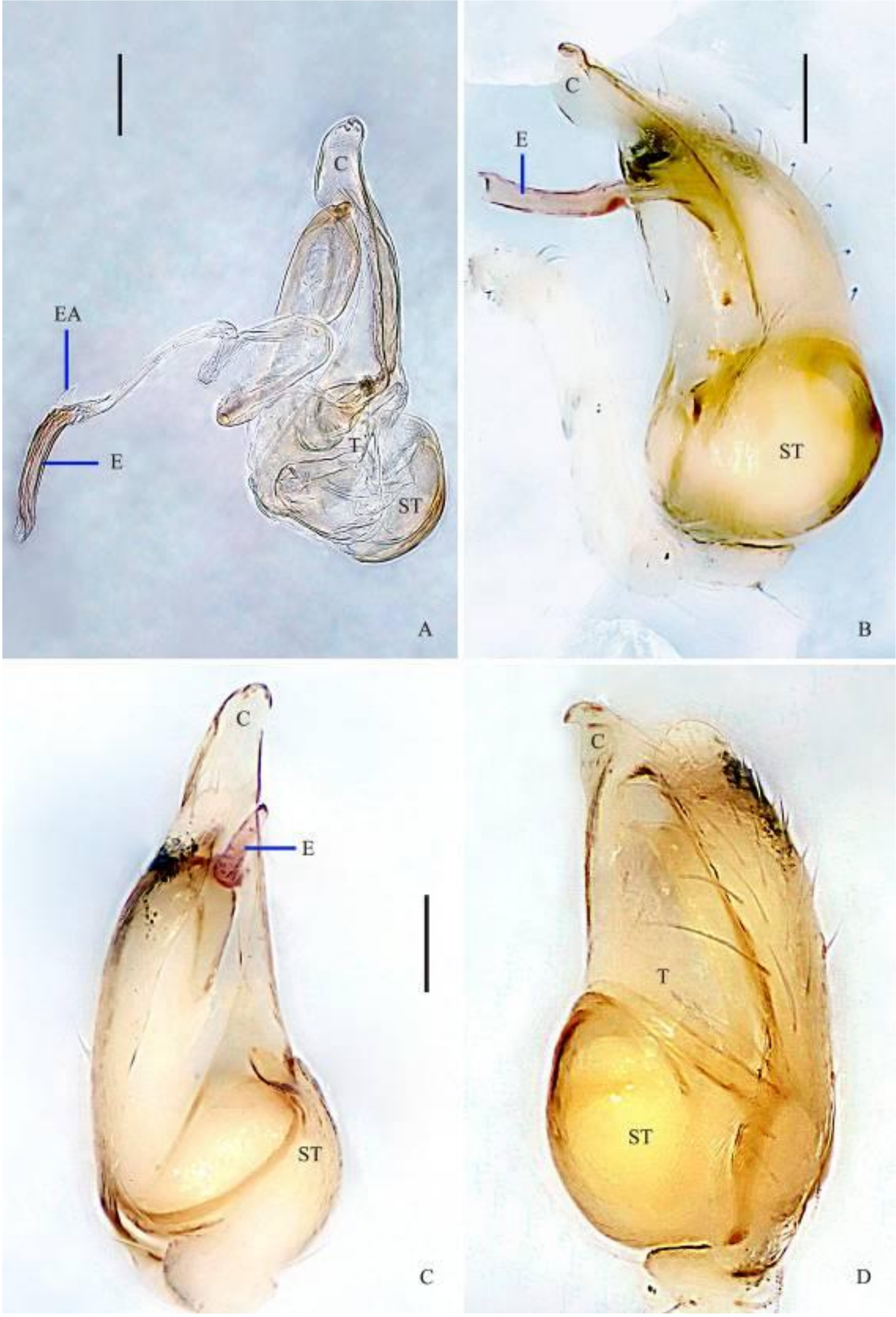

Fig. 25. *Chrysso dentaria* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

evergreen broad-leaved forest (21°54.767'N, 101°11.431'E), 10–20 June 2007, Guo Zheng leg.; 1♂, 3♀, Xishuangbanna, Menglun Nature Reserve, primary tropical seasonal rainforest (21°57.669'N, 101°11.893'E), 19–26 April 2007, Guo Zheng leg.; 1♂, 6♀, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°54.767'N, 101°11.431'E), 19–26 April 2007, Guo Zheng leg.; 2♂, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°54.813'N, 101°12.634'E), 1–15 February 2007, Guo Zheng leg.; 1♀, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.718'N, 101°16.940'E), 16–31 March 2007, Guo Zheng leg.

Distribution. China (Guangxi, Hebei, Hubei, Hunan, Jiangsu, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Yunnan, Zhejiang); Japan, Korea.

Chrysso pulcherrima (Mello-Leitão, 1917)

Argyrodes pulcherrimus Mello-Leitão, 1917: 86, figs 7–8.

Chrysso pulcherrima Zhu & Zhang, 1992: 23, figs 3A–D; Zhu, 1998: 54, figs 28A–D; Song *et al.*, 1999: 103, figs 50A–B, J.

Material examined. China, Yunnan, 1♂, 1♀, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°54.767'N, 101°11.431'E), 6 August 2007, Guo Zheng leg.; 2♂, Menglun, rubber plantation (about 20 years) (21°54.646'N, 101°16.257'E), 16 July 2007, Guo Zheng leg.; 1♂, Menglun Nature Reserve, primary tropical seasonal rainforest (21°54.725'N, 101°13.261'E), 8 August 2007, Guo Zheng leg.

Distribution. Pantropical.

Chrysso spiniventris (O. P.-Cambridge, 1869)

Theridion spiniventre O. P.-Cambridge, 1869: 384, pl. 12, figs 52–56; Song, 1987: 128, fig. 89.

Chrysso spiniventris Zhu, 1998: 66, figs 38A–D; Song *et al*., 1999: 107, figs 50E–L.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun, rubber plantation (about 20 years) (21°54.463'N, 101°15.978'E), 19–25 November 2006, Guo Zheng leg.; 1♂, Menglun, rubber plantation (about 20 years) (21°54.498'N, 101°16.326'E), 5–12 February 2007, Guo Zheng leg.

Distribution. China (Guangxi, Taiwan, Yunnan); Japan, Sri Lanka.

Chrysso trimaculata Zhu, Zhang & Xu, 1991

Chrysso trimaculata Zhu *et al*., 1991: 174, figs 8–12; Zhu, 1998: 58, figs 31A–F; Song *et al*., 1999: 107, figs 50F–G, O–P.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°57.784'N, 101°11.947'E), 6 June 2007, Guo Zheng leg.

Distribution. China (Fujian, Guizhou, Hainan, Hunan, Taiwan, Yunnan).

3.8 Genus *Coleosoma* O. P.-Cambridge, 1882

Coleosoma blandum O. P.-Cambridge, 1882

Coleosoma blandum O. P.-Cambridge, 1882: 427, pl. 29, fig. 3; Chen & Zhang, 1991: 136, figs 128.1–6; Zhu, 1998: 70, figs 40A–F; Song *et al*., 1999: 107, figs 52A–B, G; Hu, 2001: 557, figs 375.1–4, 376.1–3.

Material examined. China, Yunnan, 2♀, Xishuangbanna, Menglun, rubber plantation (about 20 years) (21°54.498'N, 101°16.326'E), 4–11 May 2007, Guo Zheng leg.

Distribution. Cosmopolitan.

3.9 Genus *Cryptachaea* Archer, 1946

Diagnosis. The genus resembles *Henziectypus* and *Parasteatoda*, but can be distinguished by male pedipalpus with cymbium extend beyond alveolus; median apophysis attached to embolus forming one sclerite; tegulum spherical; sbutegulum shallow and ring-like (Yoshida, 2008).

Cryptachaea uncina **sp. nov.** (Figs 26–29)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, primary tropical seasonal rainforest (21°57.669'N, 101°11.893'E), 19–26 March 2007, Guo Zheng leg.

Paratypes: 2♂, 1♀, Xishuangbanna, Menglun Nature Reserve, primary tropical seasonal rainforest (21°57.445'N, 101°12.997'E), 5–12 September 2006, Guo Zheng leg.; 2♂, 1♀, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°53.823'N, 101°17.072'E), 19–25 November 2006, Guo Zheng leg.

Etymology. The specific name derives from the Latin adjective *uncinus* and means hooked, in reference to the median apophysis with hooked outgrowth.

Diagnosis. The new species is somewhat similar to *C. riparia*, but can be distinguished by the median apophysis with a long outgrowth; conductor umbrellalike; copulatory ducts long and curved.

Male (measurements of holotype). Total length 1.45. Prosoma 0.73 long, 0.66 wide, yellow, with black stripes. Sternum 0.46 long, 0.46 wide, grey with setae. Opisthosoma 0.83 long, 0.69 wide, pale, with black stripes, white spots, without colulus. Eye measurements: AME 0.08, ALE 0.06, PME 0.06, PLE 0.06, AME-AME 0.04, AME-ALE 0.03, PME-PME 0.04, PME-PLE 0.03. Clypeus height about 2.92 times AME diameter, yellow. Chelicerae: yellow, with 2 anterior teeth; fangs long, slender. Endites: 0.25 long, 0.11 wide, yellow to grey, with brown pro-edges. Labium fused with sternum, 0.06 long, 0.14 wide, with 2 setae, yellow to grey. Leg measurements: I 3.62 (1.09, 0.30, 0.90, 0.78, 0.55); II 2.49 (0.78, 0.30, 0.68, 0.28, 0.45); III 2.28 (0.65, 0.25, 0.50, 0.44, 0.44); IV 2.93 (0.86, 0.30, 0.71, 0.58, 0.48). Leg I yellow, without spot; femur with 2 rows of spines; patella with 1 distal spine; tibia with many spines; metatarsus with many spines, trichobotria; tarsus with many spines. Legs II–IV similar to leg I, yellow, without spot. Pedipalpus (Figs 26A–B, 27A–C, 29A–D): tibia yellow, with black spots, 2 trichobothria; cymbium yellow, with black spot; paracymbium hooked; subtegulum small; tegulum large; median apophysis large, with long hooked outgrowth; embolus short, without apophysis; conductor membranous, umbrellalike; tegular apophysis distally forked.

Variation. Male paratypes. Total length 1.40–1.45; prosoma 0.69–0.75 long, 0.63–0.65 wide; sternum 0.44–0.48 long, 0.44–0.48 wide; opisthosoma 0.80–0.88 long, 0.68–0.69 wide.

Female (measurements of paratypes). Total length 1.50–1.88. Prosoma 0.80–0.84 long, 0.61–0.69 wide, yellow, with black stripes. Sternum 0.41–0.50 long, 0.41–0.50 wide, grey. Opisthosoma 1.00–1.06 long, 0.81–0.90 wide, pale, with black stripes, white spots. Legs yellow, similar to male. Epigynum (Figs 26C–D, 28A–B): epigynum with triangular scape; copulatory openings distinguishable; spermathecae circular, with crimpled, semicircular dent; copulatory ducts long, curved, originating from bottom of spermathecae, opening to anterior margin of atrium; fertilization ducts short, segmented.

Distribution. Only known from type locality (Yunnan).

3.10 Genus *Dipoena* Thorell, 1869

Diagnosis. The genus differ from other genera by prosoma high but non-cylindrical; colulus absent, with two setae; male pedipalpus with small tegulum; free median apophysis; female epigynum with two seminal receptacles connecting with sclerotized duct (Yoshida, 2002).

Dipoena bifada **Zhang & Zhang, 2011**

Dipoena bifada Zhang & Zhang, 2011: 93, figs 1–5.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°57.784'N, 101°11.947'E), 6 August 2007, Guo Zheng leg.; 3♂, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°57.813'N, 101°12.634'E), 5 August 2007, Guo Zheng leg.; 1♂, Menglun Nature Reserve, primary tropical seasonal rainforest (21°57.445'N, 101°12.997'E), 30 July 2007, Guo Zheng leg.; 1♂, Menglun Nature Reserve, primary tropical seasonal rainforest (21°57.669'N, 101°11.893'E), 7 August 2007, Guo Zheng leg.; 1♂, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.984'N, 101°16.982'E), 10 August 2007, Guo Zheng leg.; 1♂, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.607'N, 101°17.005'E), 28 July 2007, Guo Zheng leg.; 1♂, Menglun Nature Reserve, primary tropical seasonal rainforest (21°57.445'N, 101°12.997'E), 1–15 April 2007, Guo Zheng leg.

Distribution. China (Hainan, Yunnan).

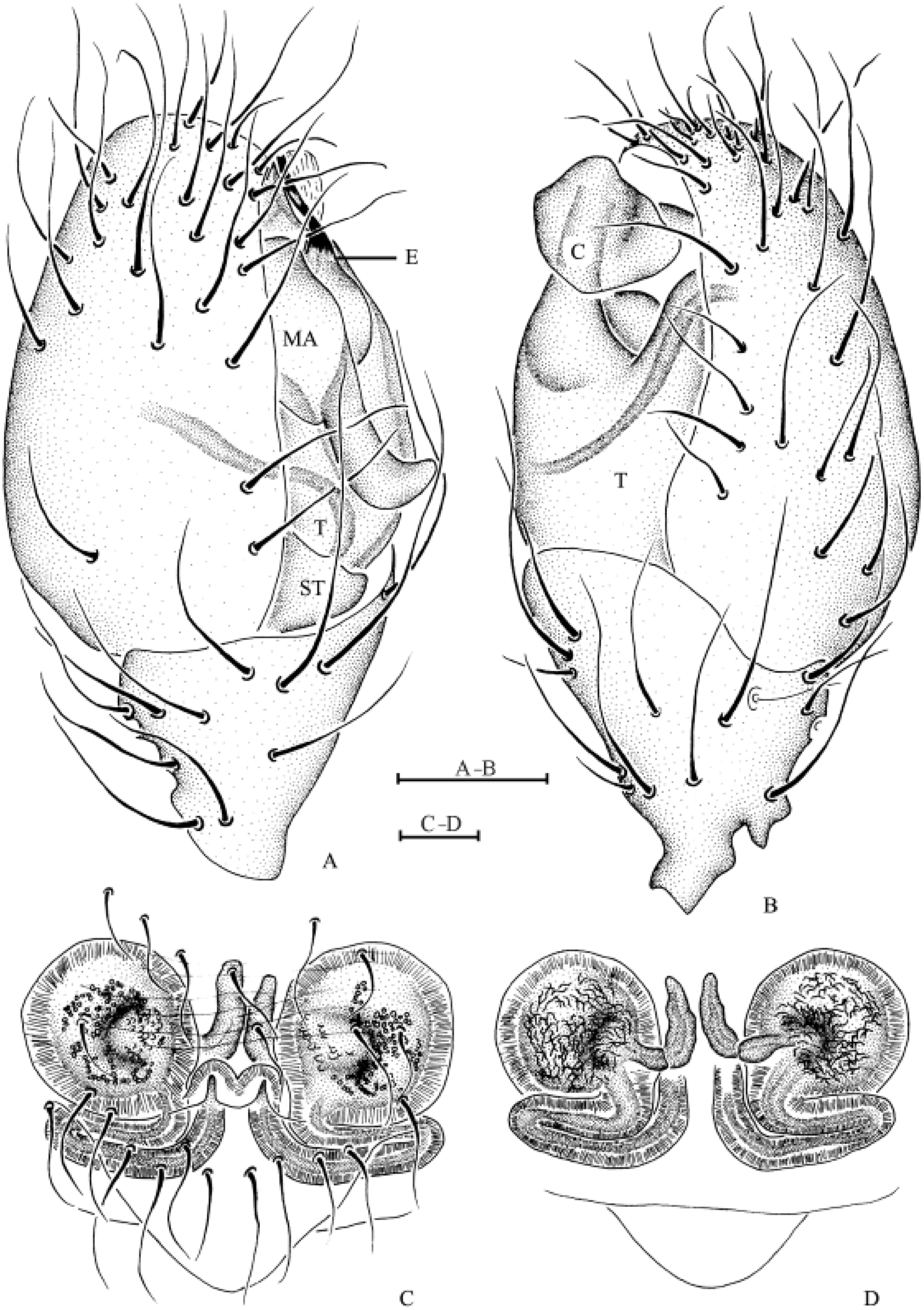

Fig. 26. *Cryptachaea uncina* **sp. nov.**, holotype male and paratype female. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view; C. Epigynum (vulva), ventral view; D. Epigynum (vulva), dorsal view. Scale bars = 0.10 mm.

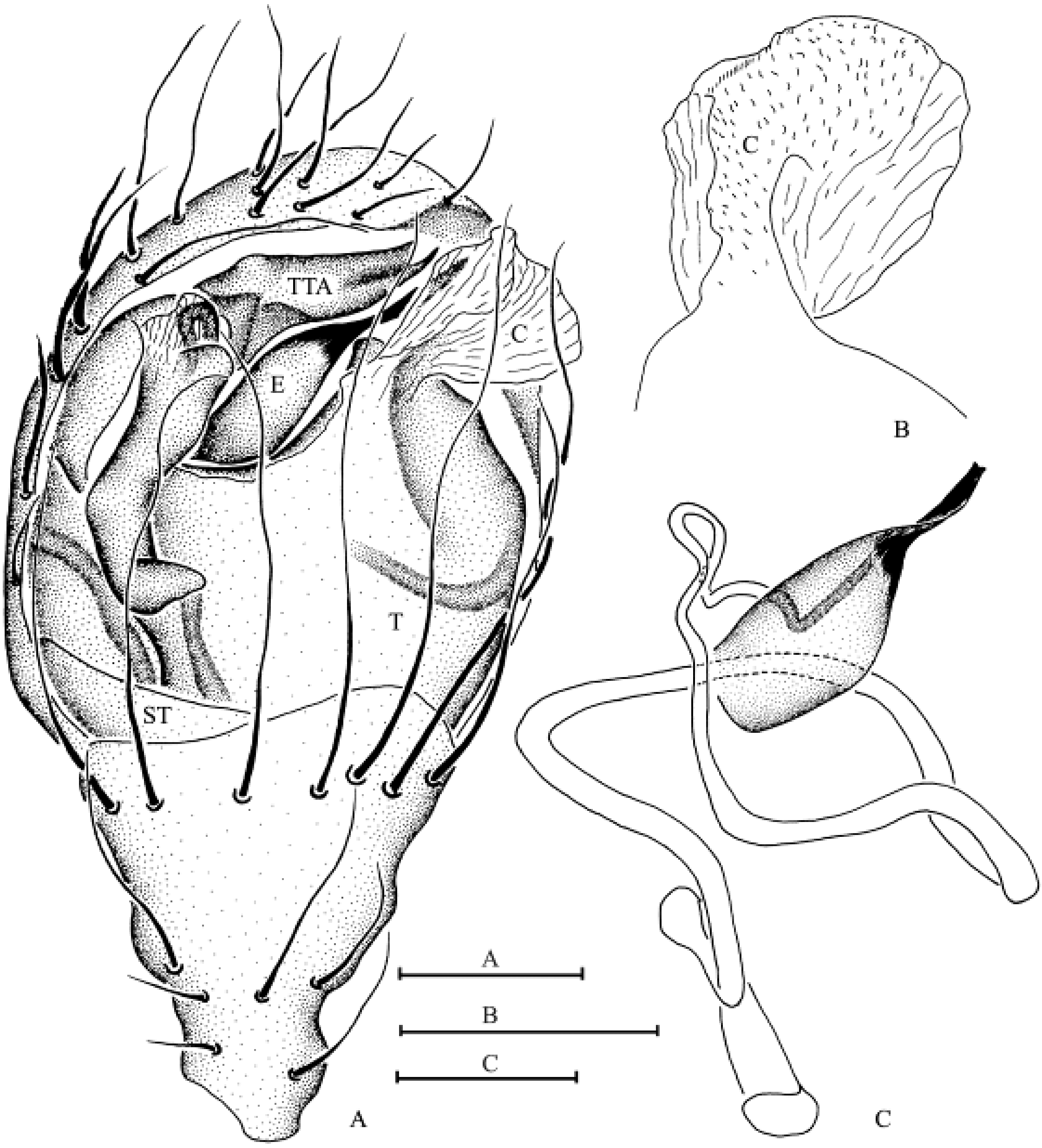

Fig. 27. *Cryptachaea uncina* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Conductor, ventral view; C. Embolus, ventral view. Scale bars = 0.10 mm.

Dipoena calvata **sp. nov.** (Figs 30–32)

Holotype ♂, China, Yunnan, Xishuangbanna, Mengla County, Menglun Town, primary tropical seasonal rainforest (2155.035'N, 101°16.500'E), 16–31 May 2007, Guo Zheng leg.

Paratypes 2♂, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°54.767'N, 101°11.431'E), 16–31 April 2007, Guo Zheng leg.

Etymology. The specific name derives from the Latin adjective *calvatus* and means smooth, in reference to the smooth median apophysis.

Diagnosis. The new species is similar to *D. tiro* but can be distinguished by the smooth median apophysis, long, slender embolus, and the lower prosoma.

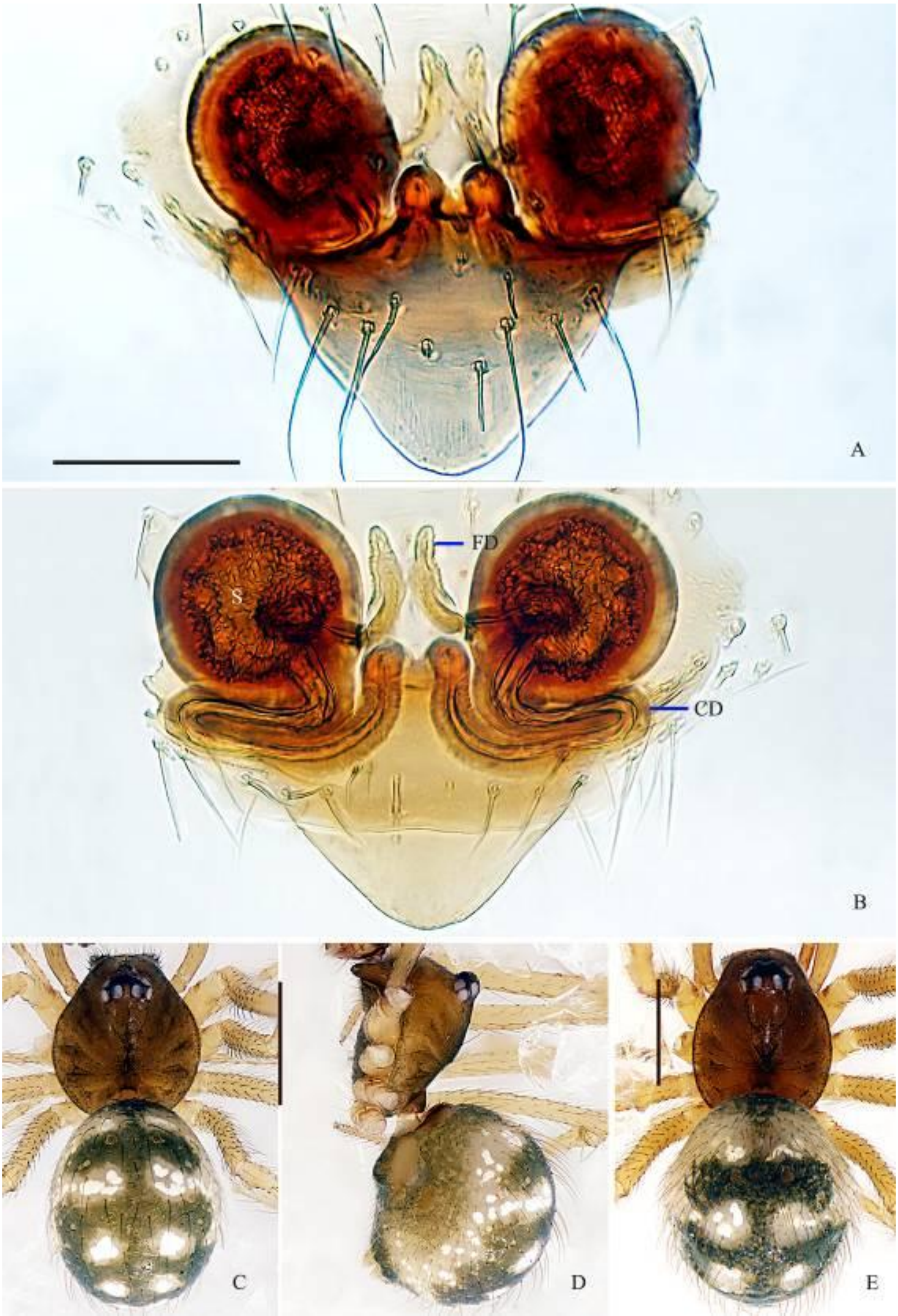

Fig. 28. *Cryptachaea uncina* **sp. nov.**, holotype male and paratype female. A. Epigynum (vulva), ventral view; B. Epigynum (vulva), dorsal view; C. Male habitus, dorsal view; D. Male habitus, lateral view; E. Female habitus, dorsal view. Scale bars: A–B = 0.10 mm, C–E = 0.50 mm.

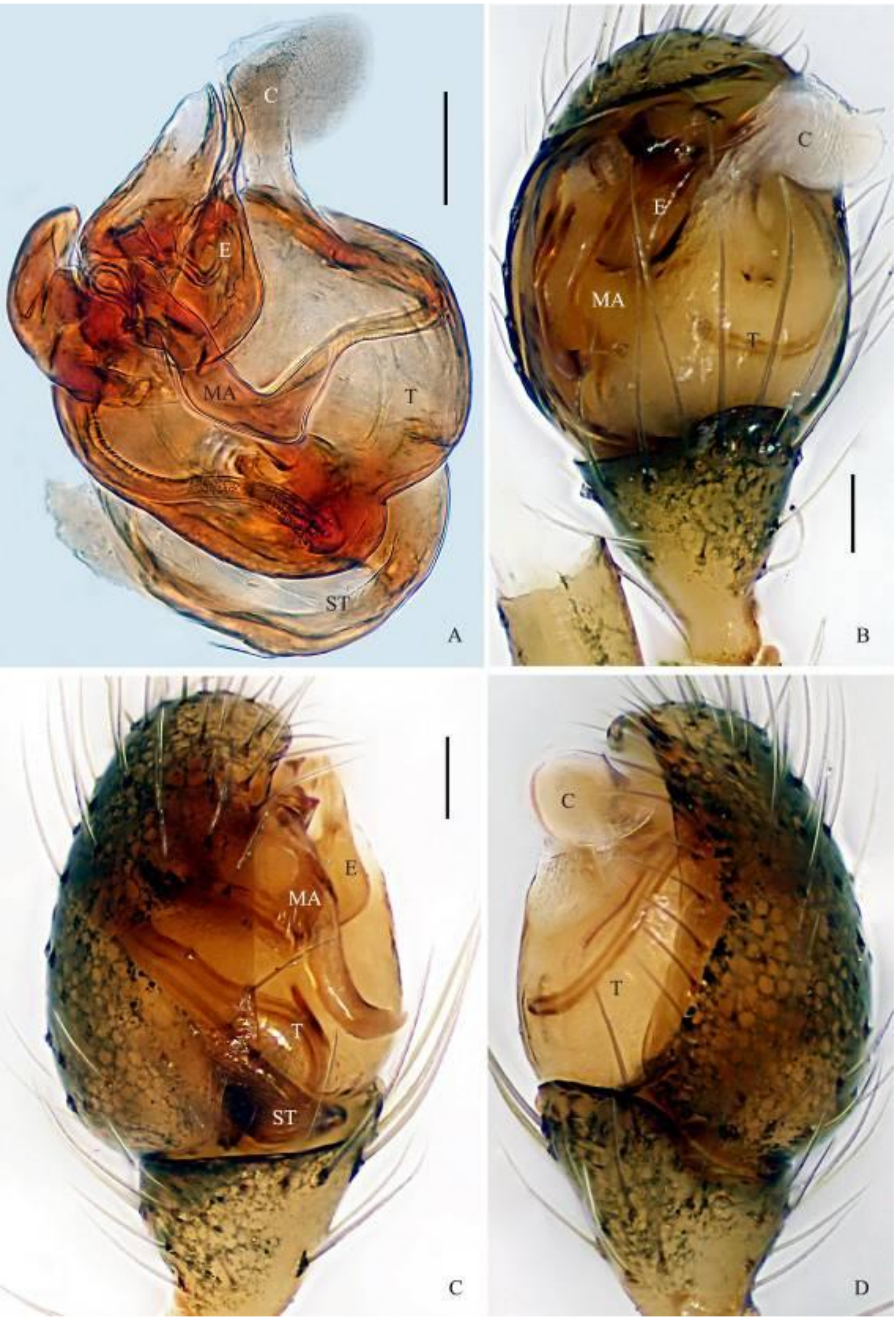

Fig. 29. *Cryptachaea uncina* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.05 mm.

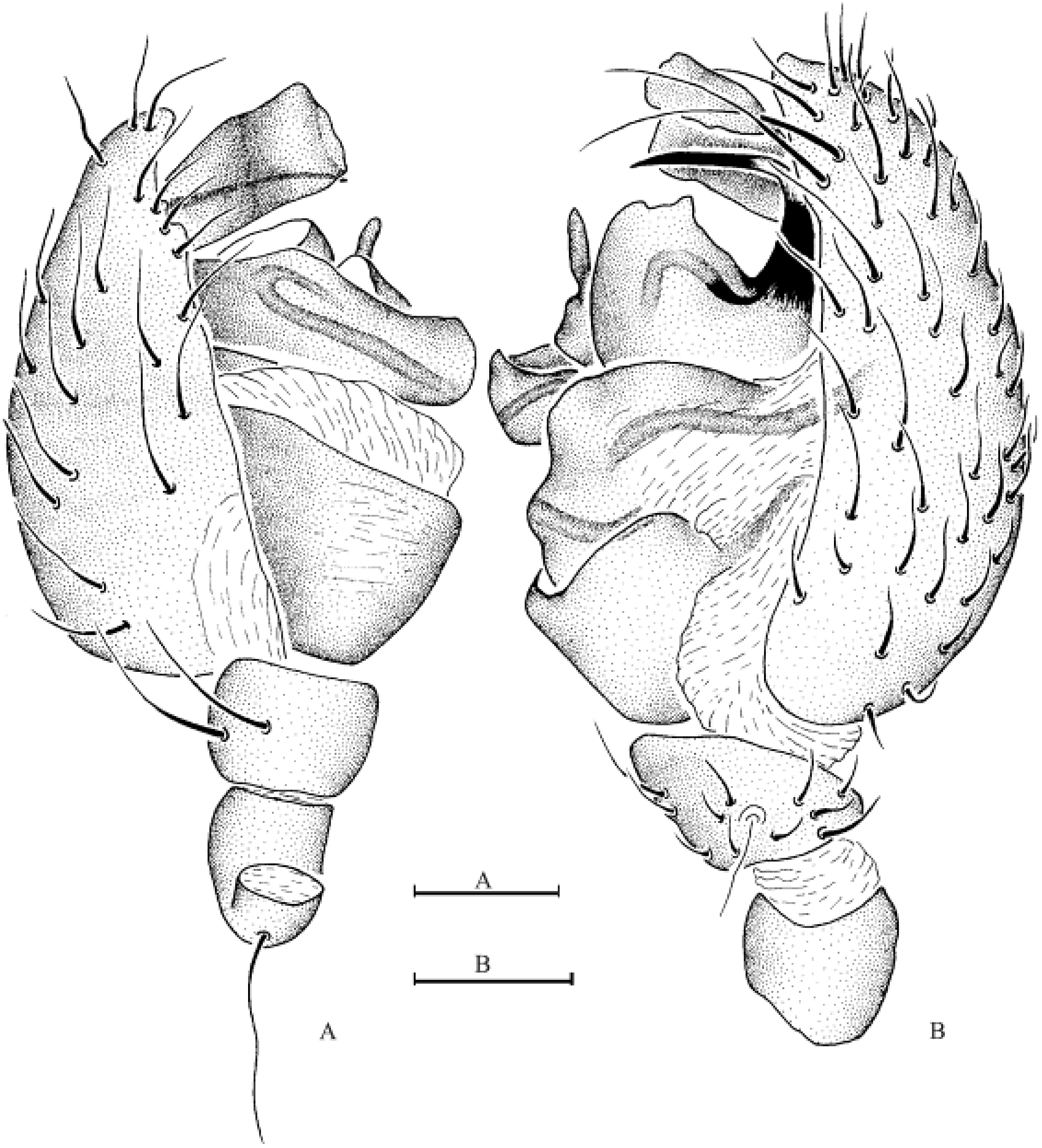

Fig. 30. *Dipoena calvata* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

Male (measurements of holotype). Total length 1.60. Prosoma 0.80 long, 0.63 wide, high, yellow, with black spots, dorsal grooves in middle. Sternum 0.40 long, 0.45 wide, yellow with dark spots. Opisthosoma 0.98 long, 0.63 wide, grey, with large white spots, without colulus. Eye measurements: AME 0.10, ALE 0.09, PME 0.09, PLE 0.08, AME-AME 0.06, AME-ALE 0.03, PME-PME 0.05, PME-PLE 0.04. Clypeus height about 4.80 times AME diameter, yellow. Chelicerae: yellow, without tooth; fangs long, slender (fix throughout!!). Endites: 0.17 long, 0.09 wide, yellow to grey with brown pro-edges. Labium fused with sternum, 0.06 long, 0.13 wide, yellow. Leg measurements: I 2.48 (0.75, 0.25, 0.60, 0.53, 0.35); II 1.95 (0.60, 0.22, 0.40, 0.40, 0.33); III 1.55 (0.55, 0.20, 0.38, 0.22, 0.20); IV 2.36 (0.76, 0.25, 0.53, 0.40, 0.42). Leg I yellow, without spot; femur with row of spines, tibia with 1 spine. Legs II–IV similar to leg I, except femur II–IV with 1 spine. Pedipalpus (Figs 30A–B, 31A–B, 32A–D): tibia with 2 trichobothria; cymbium yellow; paracymbium hooked; subtegulum and tegulum smooth, without apophyses; median apophysis smooth, without protrusion; tegular

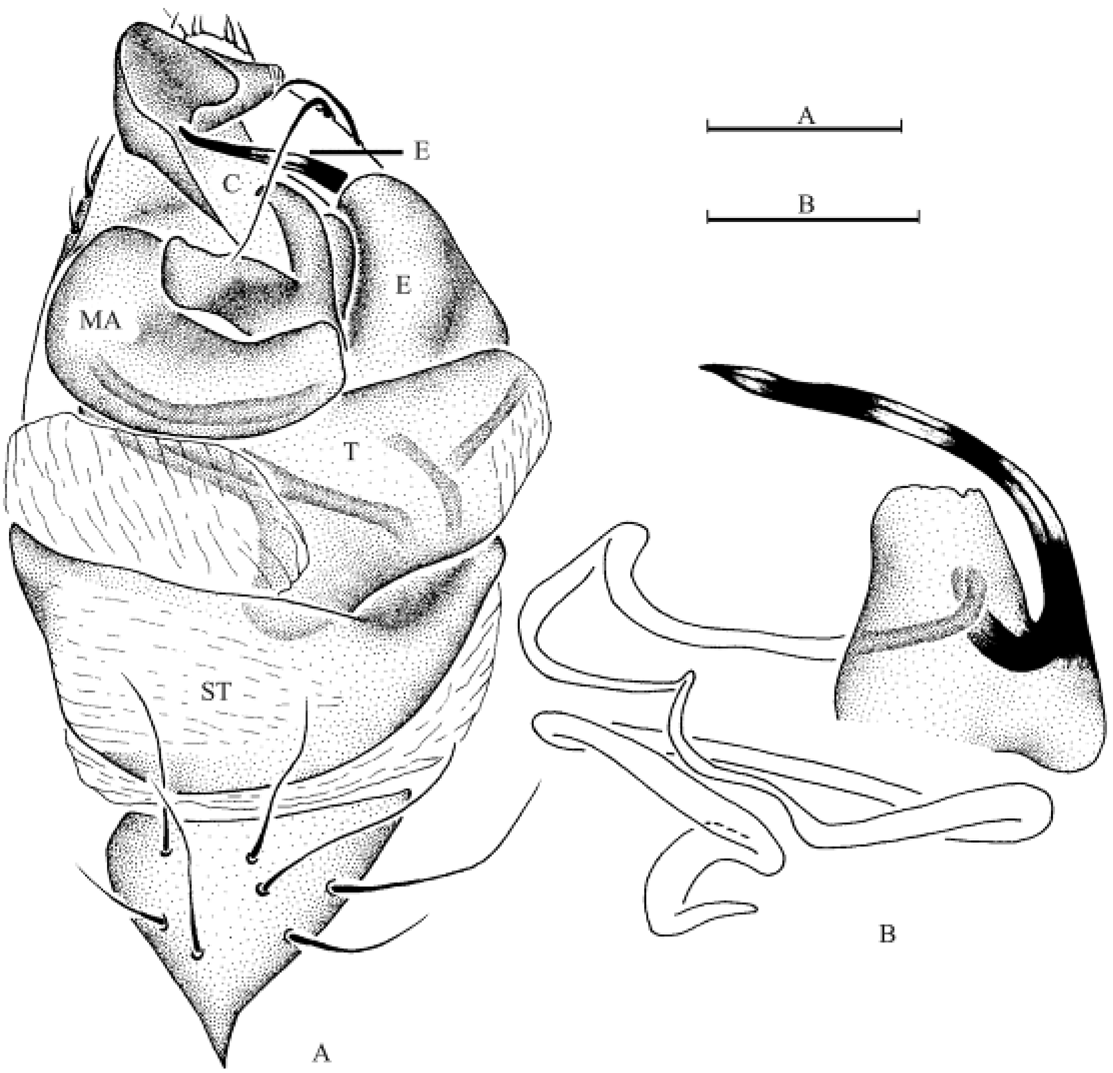

Fig. 31. *Dipoena calvata* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view. Scale bars = 0.10 mm.

apophysis with branch; embolus long, slender, with basal process; conductor long, with process.

Variation. Male paratypes. Total length 1.21–1.63; prosoma 0.63–0.75 long, 0.44–0.65 wide, high, with dorsal grooves at middle, pale yellow, without spot; sternum 0.33–0.48 long, 0.33–0.48 wide, yellow; opisthosoma 0.75–0.93 long, 0.63–0.69 wide, grey with large white spots.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

Dipoena cathedralis **Levi, 1953**

Dipoena cathedralis Levi, 1953: 15, figs 19–22.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.390'N, 101°16.811'E), 10 August 2007, Guo Zheng leg.

Distribution. China (Yunnan); USA.

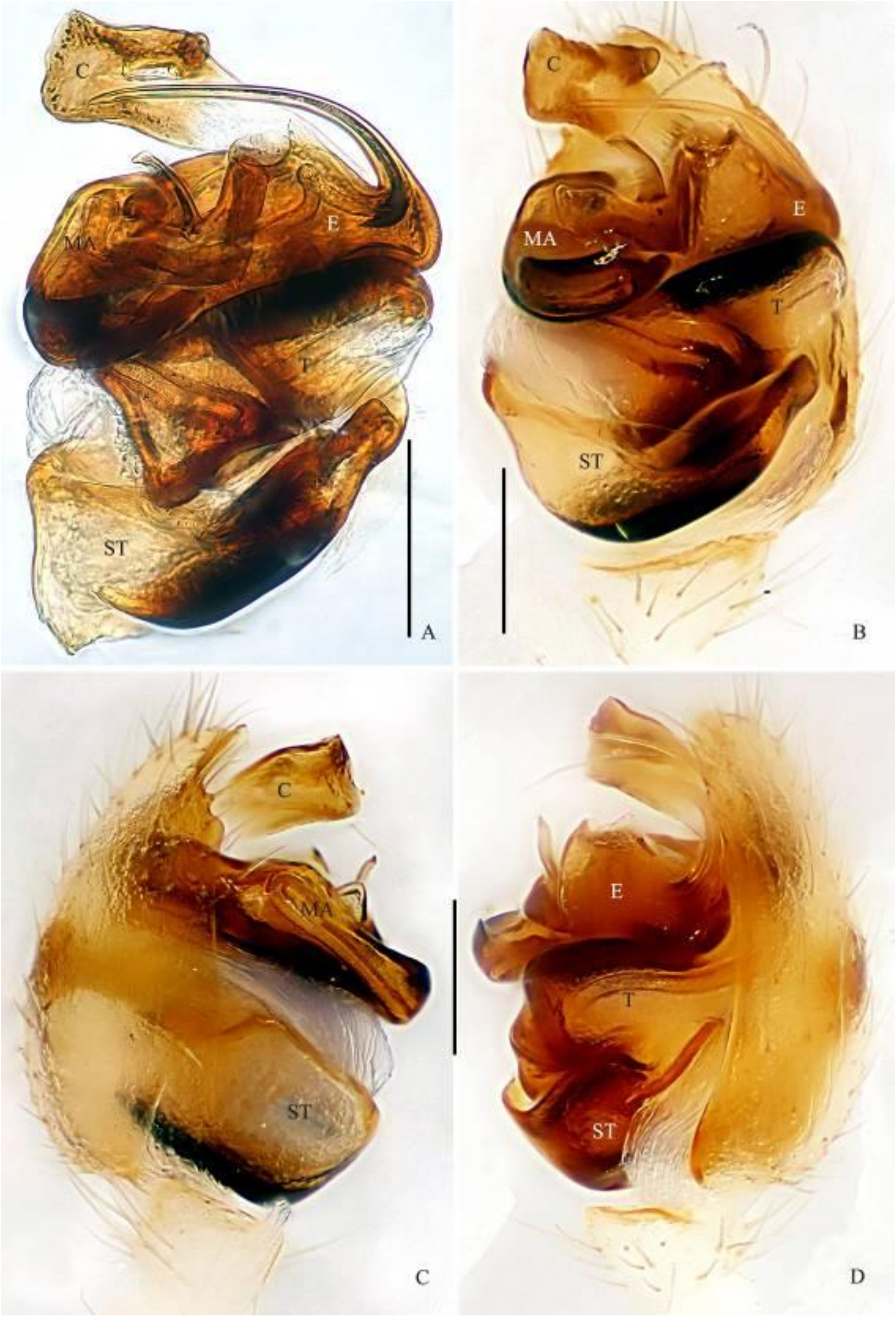

Fig. 32. *Dipoena calvata* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

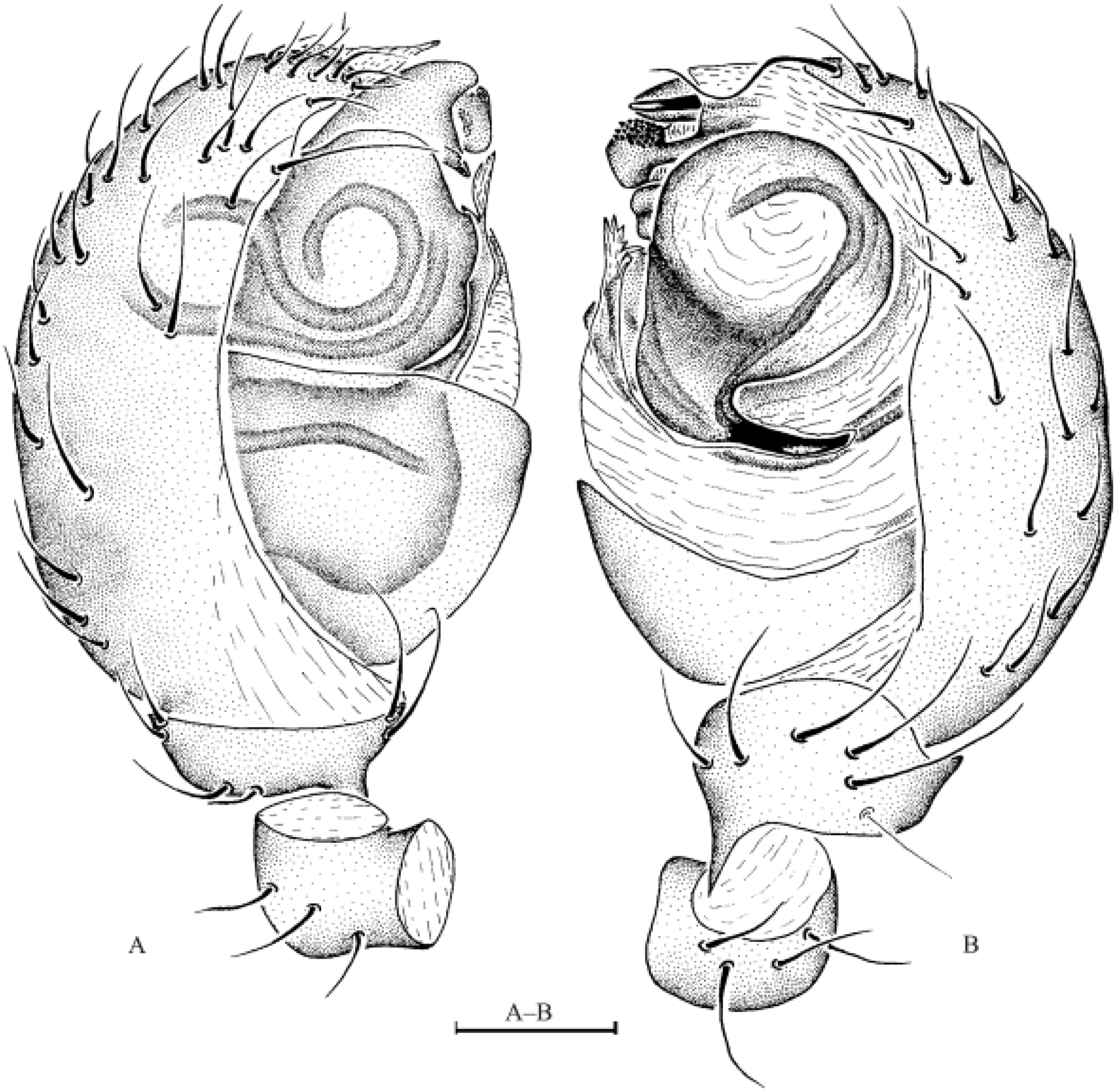

Fig. 33. *Dipoena complexa* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.10 mm.

***Dipoena complexa* sp. nov.** (Figs 33–35)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°54.767'N, 101°11.431'E), 16–31 February 2007, Guo Zheng leg.

Paratypes: 1♂, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°54.813'N, 101°12.634'E), 1–15 January 2007, Guo Zheng leg.; 1♂, Mengla County, Menglun Town, rubber plantation (about 20 years) (21°54.684'N, 101°16.319'E), 4–11 May 2007, Guo Zheng leg.; 2♂, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°54.767'N, 101°11.431'E), 19–26 May 2007, Guo Zheng leg.; 2♂, Mengla County, Menglun Town, *Paramichelia baillonii* plantation (about 20 years) (21°53.823'N, 101°17.072'E), 10–20 June 2007, Guo Zheng leg.; 1♂, Mengla County, Menglun Town, *Paramichelia baillonii* plantation (about 20 years) (21°54.200'N, 101°16.923'E), 1–17 February 2007, Guo Zheng leg.

Etymology. The specific name derives from the Latin adjective *complexus* and means encircled, in reference to the conductor long and curved.

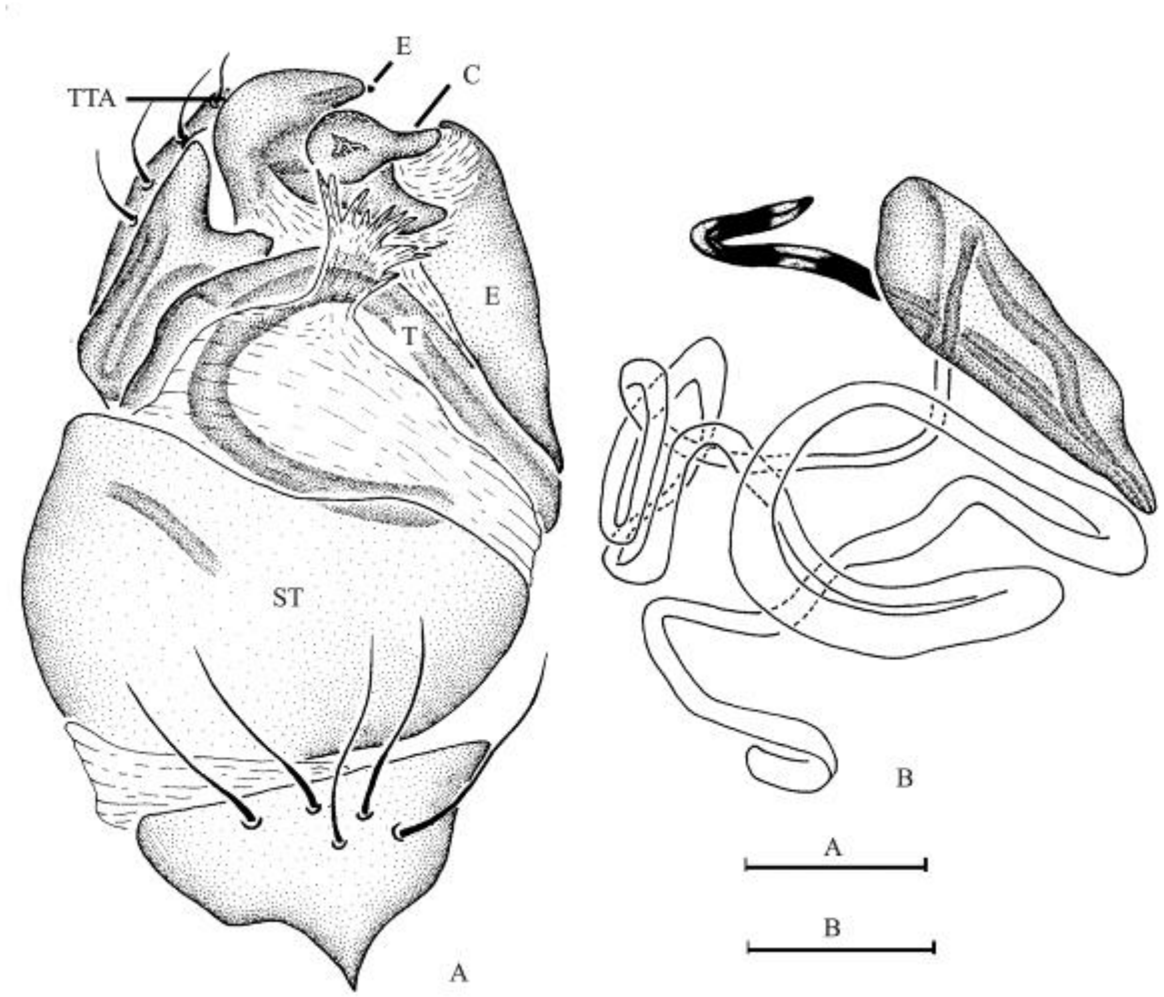

Fig. 34. *Dipoena complexa* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view. Scale bars = 0.10 mm.

Diagnosis. The new species is similar to *D. yutian*, but can be distinguished by the tegular apophysis with a branch; conductor long, curved and protruding ventrally.

Male (measurements of holotype). Total length 1.95. Prosoma 0.88 long, 0.73 wide, high, columned, yellow, with grey stripes, dorsal grooves in middle. Sternum 0.58 long, 0.45 wide, yellow to grayish, with setae. Opisthosoma 1.05 long, 1.03 wide, grey, with white striae, without colulus. Eye measurements: AME 0.10, ALE 0.07, PME 0.08, PLE 0.10, AME-AME 0.10, AME-ALE 0.06, PME-PME 0.05, PME-PLE 0.09. Clypeus height about 7.50 times AME diameter, yellow. Chelicerae: pale with dark spots, 4 strong short spines, without tooth; fangs long and slender. Endites: 0.20 long, 0.13 wide, yellow with brown pro-edges. Labium fused with sternum, 0.04 long, 0.15 wide, with 4 setae, yellow. Leg measurements: I 2.67 (0.88, 0.18, 0.60, 0.63, 0.38); II 2.47 (0.80, 0.28, 0.50, 0.61, 0.28); III 2.17 (0.68, 0.25, 0.43, 0.50, 0.31); IV 2.87 (0.93, 0.31, 0.56, 0.69, 0.38). Leg I pale yellow, femur, patella and tibia with grey rings; tibia with 2 spines. Legs II–IV similar to leg I. Pedipalpus (Figs 33A–B, 34A–B, 35A–D): tibia yellow, with 2 trichobothria; cymbium yellow, with black spots; paracymbium hooded; subtegulum broad; tegulum covered with membrane; median apophysis smooth without protrusion; tegular apophysis with branch; conductor long, curved to ventral side, with striae on tip; embolus long, slender, largely covered by base.

Variation. Male paratypes. Total length 1.45–1.75; prosoma 0.80–0.88 long, 0.69–0.73 wide; sternum 0.43–0.48 long, 0.43–0.48 wide; opisthosoma 0.68–1.00 long, 0.65–0.85 wide.

Female. Unknown.

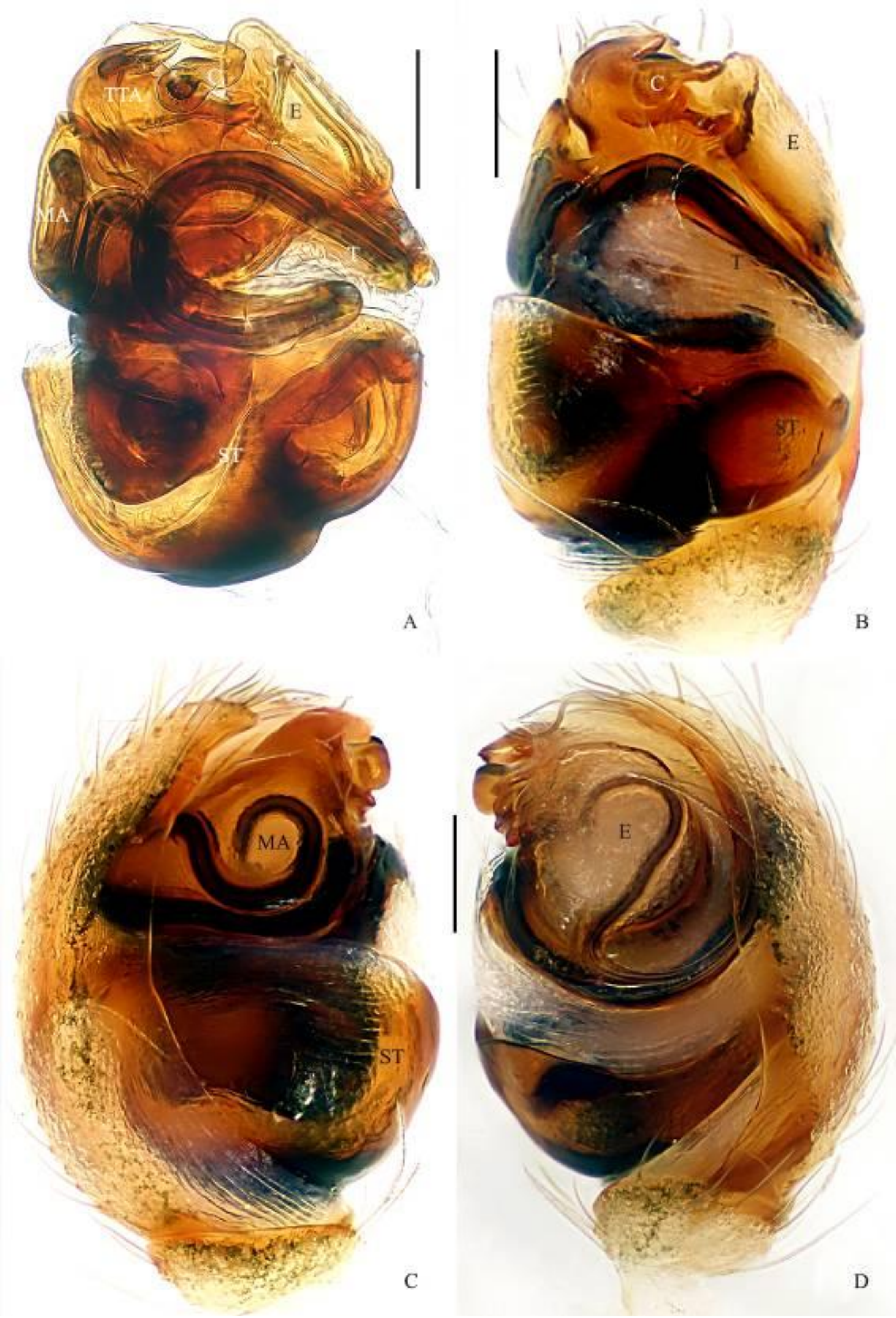

Fig. 35. *Dipoena complexa* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

Distribution. Only known from type locality (Yunnan).

Dipoena gui Zhu, 1998

Dipoena gui Zhu, 1998: 228, figs 148A–E; Song *et al*., 1999: 110, figs 54A–B, I–J.

Material examined. China, Yunnan, 2♂, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°54.767'N, 101°11.431'E), 6 August 2007, Guo Zheng leg.; 1♂, 1♀, Menglun, rubber plantation (about 20 years) (21°54.498'N, 101°16.326'E), 17 July 2007, Guo Zheng leg.

Distribution. China (Hainan, Yunnan).

Dipoena hainanensis Zhu, 1998

Dipoena hainanensis Zhu, 1998: 234, figs 153A–F; Song *et al*., 1999: 110, figs 54C–D. K–L.

Material examined. China, Yunnan, 9♂, 2♀, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.390'N, 101°16.811'E), 10 August 2007, Guo Zheng leg.; 2♂, 5♀, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (about 20 years) (21°57.809'N, 101°12.173'E), 4 August 2007, Guo Zheng leg.; 1♀, Menglun, *Anogeissus acuminata* plantation (about 20 years) (21°53.993'N, 101°16.810'E), 19 August 2007, Guo Zheng leg.

Distribution. China (Hainan, Yunnan); Laos.

Dipoena longiducta Zhang & Zhang, 2011

Dipoena longiducta Zhang & Zhang, 2011: 95, figs 6–10.

Material examined. China, Yunnan, 12♂, 7♀, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.718'N, 101°16.940'E), 27 July 2007, Guo Zheng leg.

Distribution. China (Hainan, Yunnan).

Dipoena nipponica Yoshida, 2002

Dipoena nipponica Yoshida, 2002: 9, figs 7–13.

Material examined. China, Yunnan, 1♂, 2♀, Xishuangbanna, Menglun Nature Reserve, primary tropical seasonal rainforest (21°57.669'N, 101°11.893'E), 7 August 2007, Guo Zheng leg.; 1♂, 1♀, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°53.823'N, 101°17.072'E), 1–17 February 2007, Guo Zheng leg.

Distribution. China (Yunnan); Japan.

Dipoena pelorosa Zhu, 1998

Dipoena pelorosa Zhu, 1998: 243, figs 160A–E; Song *et al*., 1999: 112, figs 55I–J, O.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.390'N, 101°16.811'E), 10 August 2007, Guo Zheng leg.

Distribution. China (Shaanxi, Yunnan).

Dipoena sinica Zhu, 1992

Dipoena sinica Zhu, 1992: 109, figs 7–13; Zhu, 1998: 238, figs 156A–G; Song *et al*., 1999: 112, figs 56E–F, K–L.
Dipoena hubeiensis Chen & Zhao, 1996: 35, figs 1–7.

Material examined. China, Yunnan, 2♂, 4♀, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°57.809'N, 101°12.173'E), 4 August 2007, Guo Zheng leg.; 2♂, 2♀, Menglun, primary tropical seasonal rainforest (21°55.035'N, 101°16.500'E), 22 July 2007, Guo Zheng leg.

Distribution. China (Anhui, Gansu, Hainan, Hubei, Hunan, Shaanxi, Sichuan, Yunnan).

Dipoena turriceps **(Schenkel, 1936)**

Paoningia turriceps Schenkel, 1936: 42, fig. 12.
Dipoena turriceps Zhu, 1998: 244, figs 161A–F; Song *et al*., 1999: 112, figs 57C–D, I.

Material examined. China, Yunnan, 1♀, Xishuangbanna, Menglun, rubber plantation (about 20 years) (21°54.350'N, 101°16.461'E), 11 August 2007, Guo Zheng leg.; 1♂, Menglun, rubber plantation (about 20 years) (21°54.498'N, 101°16.326'E), 19–25 January 2007, Guo Zheng leg.

Distribution. China (Guangxi, Hainan, Sichuan, Yunnan); Laos.

3.11 Genus *Dipoenura* Simon, 1909

Dipoenura cyclosoides **(Simon, 1895)**

Dipoena cyclosoides Simon, 1894: 562, fig. 573 (nomen nudum); Simon, 1895: 145.
Dipoenura cyclosoides Zhu & Zhang, 1997: 22, figs 1A–F; Zhu, 1998: 43, figs 21A–F; Song *et al*., 1999: 112, figs 58C–D.

Material examined. China, Yunnan, 4♂, 6♀, Xishuangbanna, Menglun, primary tropical seasonal rainforest (21°55.035'N, 101°16.500'E), 22 July 2007, Guo Zheng leg.; 5♂, 4♀, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.607'N, 101°17.005'E), 28 July 2007, Guo Zheng leg.; 3♂, 1♀, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°53.823'N, 101°17.072'E), 16–31 March 2007, Guo Zheng leg.

Distribution. China (Guangxi, Hainan, Yunnan); Laos, Sierra Leone.

Dipoenura fimbriata **Simon, 1909**

Dipoenura fimbriata Simon, 1909: 95.

Material examined. China, Yunnan, 2♂, 1♀, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°57.809'N, 101°12.173'E), 4 August 2007, Guo Zheng leg.

Distribution. China (Yunnan); Krakatau, Vietnam.

3.12 Genus *Emertonella* Bryant, 1945

Diagnosis. The genus differ from other genera by the high prosoma; colulus absent; cymbium of male pedipalpus without distal projection; epigynum with a large depression; seminal receptacles two pairs (Yoshida, 2002).

Emertonella serrulata **sp. nov.** (Figs 36–39)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°54.813'N, 101°12.634'E), 5 August 2007, Guo Zheng leg.

Paratype 1♀, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°57.784'N, 101°11.947'E), 6 August 2007, Guo Zheng leg.

Etymology. The specific name derives from the Latin adjective *serrulatus* and means toothed, in reference to conductor with serrated edge.

Diagnosis. The new species is similar to *E. emertoni*, but can be distinguished by conductor slender, toothed on edge; and enveloping the embolus; copulatory ducts originate from small spermathecae.

Male (measurements of holotype). Total length 2.65. Prosoma 0.85 long, 0.75 wide, high, columned, brown, with black striae. Sternum 0.56 long, 0.56 wide, brown. Opisthosoma 1.85 long, 1.50 wide, brown, with large white stripes, many dark dents, without colulus. Eye measurements: AME 0.11, ALE 0.09, PME 0.08, PLE 0.09, AME-AME 0.11, AME-ALE 0.03, PME-PME 0.09, PME-PLE 0.09. Clypeus height about 2.82 times AME diameter, brown. Chelicerae: pale yellow, with dark spots; fangs long and slender. Endites: 0.28 long, 0.11 wide; brown, with large yellow spots. Labium fused with sternum, 0.06 long, 0.18 wide, without seta, brown. Leg measurements: I 2.31 (0.75, 0.25, 0.50, 0.50, 0.31); II 2.34 (0.75, 0.25, 0.54, 0.50, 0.30); III 2.63 (0.75, 0.48, 0.50, 0.56, 0.34); IV 2.70 (0.75, 0.25, 0.69, 0.63, 0.38). Leg I brown, femur with pale yellow ring; femur, patella, tibia and metatarsus without spine. Legs II–IV similar to leg I, femur II–IV without ring. Pedipalpus (Figs 36A–B, 37A–C, 39A–D): tibia grey, with 2 trichobothria; cymbium pale

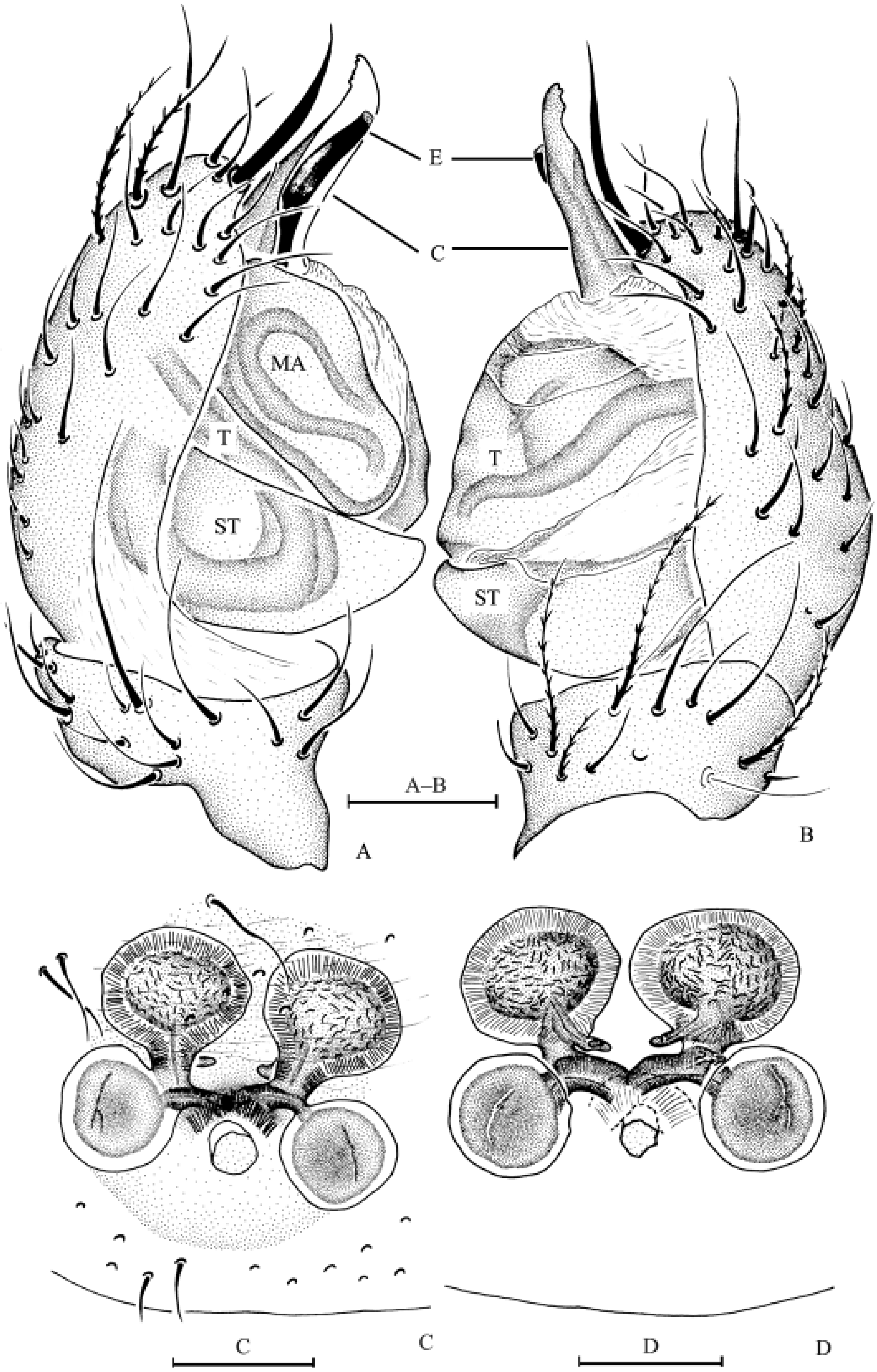

Fig. 36. *Emertonella serrulata* **sp. nov.**, holotype male and paratype female. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view; C. Epigynum (vulva), ventral view; D. Epigynum (vulva), dorsal view. Scale bars = 0.10 mm.

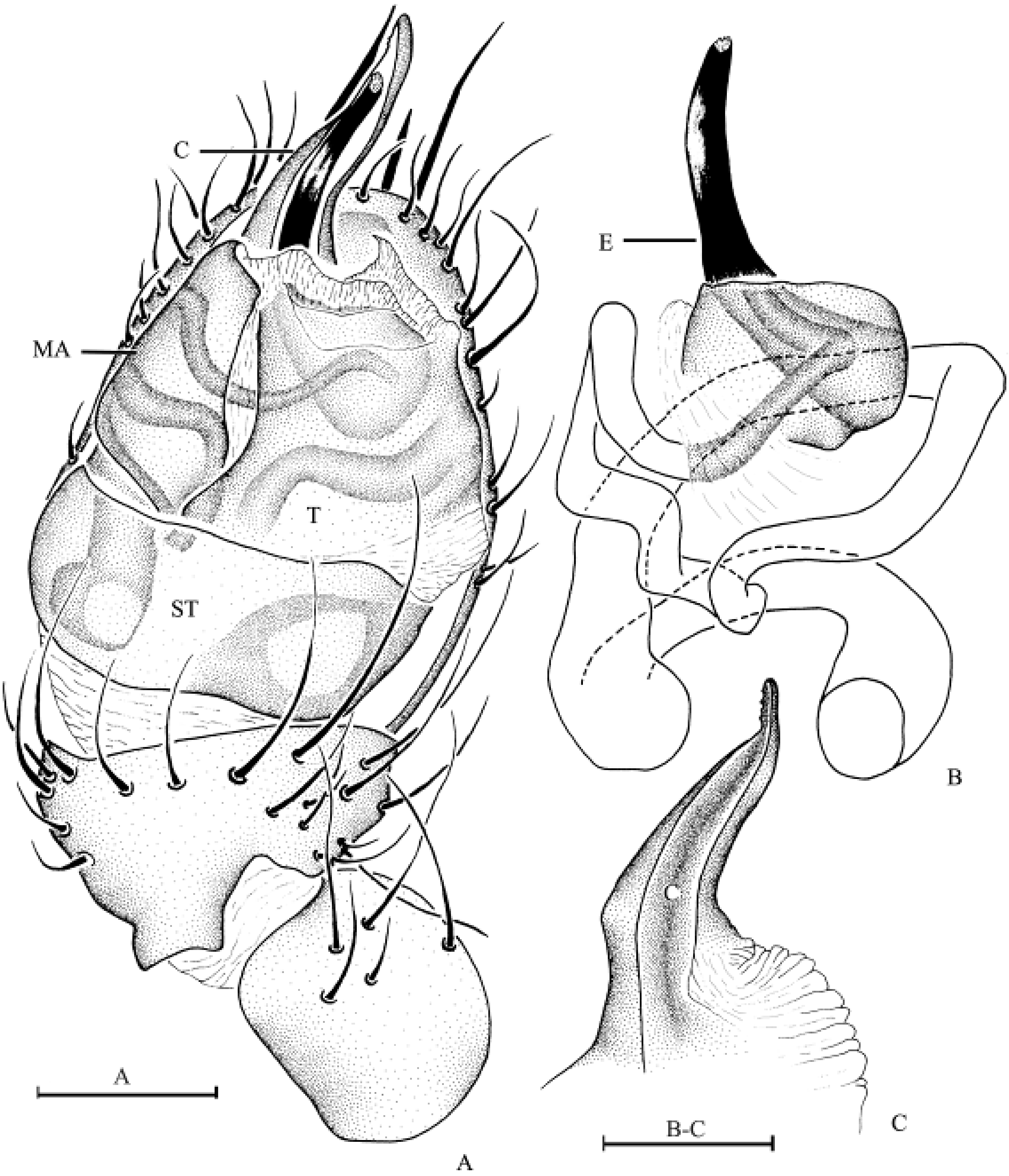

Fig. 37. *Emertonella serrulata* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view; C. Conductor, ventral view. Scale bars = 0.10 mm.

yellow, most covered by dark spots; paracymbium hooded; subtegulum large; tegulum large, covering most of embolar base; median apophysis smooth, without protrusion; embolus long; conductor long, slender, with curled up, enveloping embolus, with toothed edge.

Female (measurements of paratype). Total length 3.00. Prosoma 1.00 long, 0.85 wide, high, columned, brown, with black stripes. Sternum 1.25 long, 1.25 wide, brown. Opisthosoma 2.00 long, 1.50 wide, brown, with white spots, many dents. Legs brown, similar to male, femur I–IV with pale yellow ring. Epigynum (Figs 36C–D, 38A–B): epigynum flat; one large pair, one small pair of spermathecae; copulatory ducts with tiny protuberances, short, outgrow from small

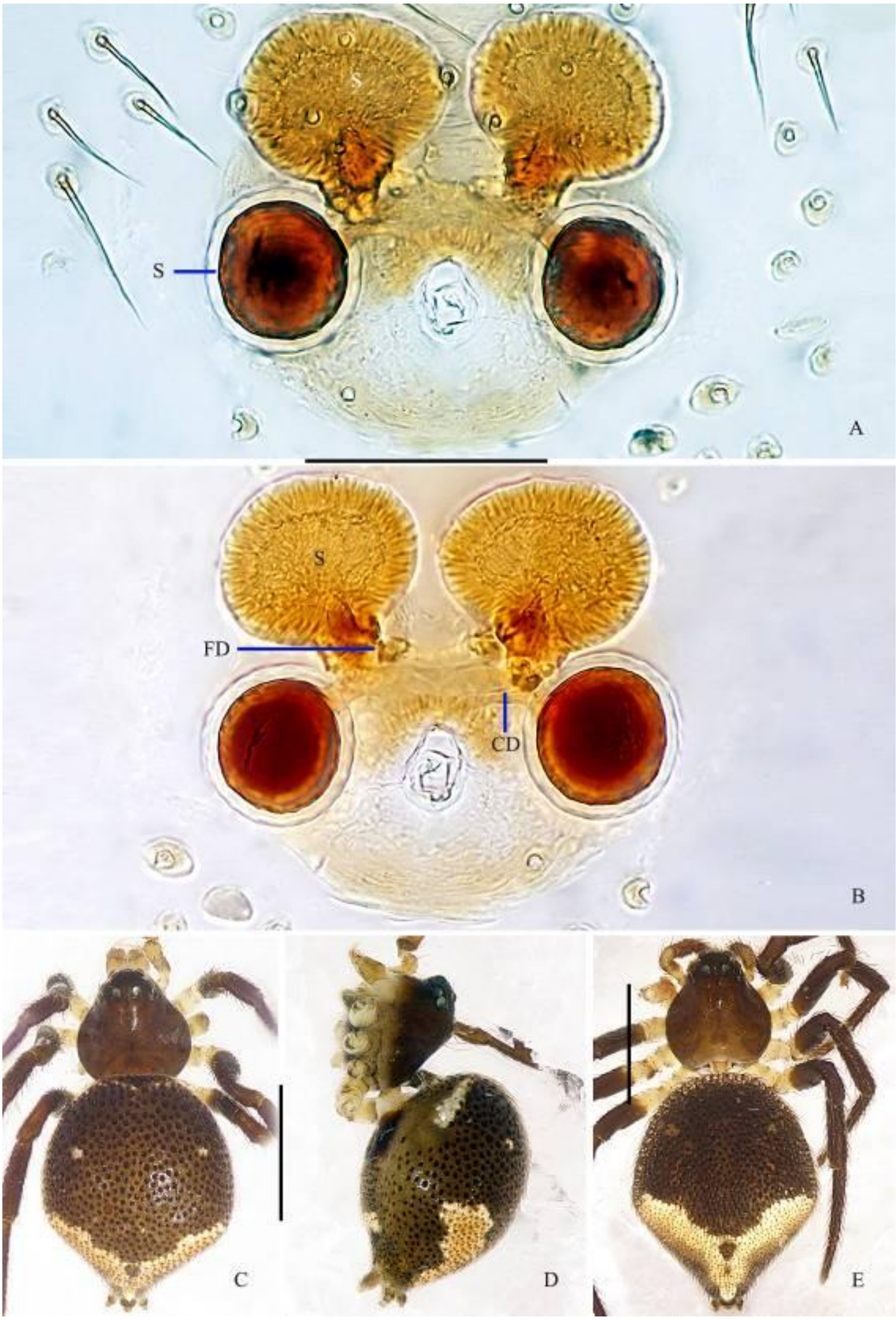

Fig. 38. *Emertonella serrulata* **sp. nov.**, holotype male and paratype female. A. Epigynum (vulva), ventral view; B. Epigynum (vulva), dorsal view; C. Male habitus, dorsal view; D. Male habitus, lateral view; E. Female habitus, dorsal view. Scale bars: A–B = 0.10 mm, C–E = 1.00 mm.

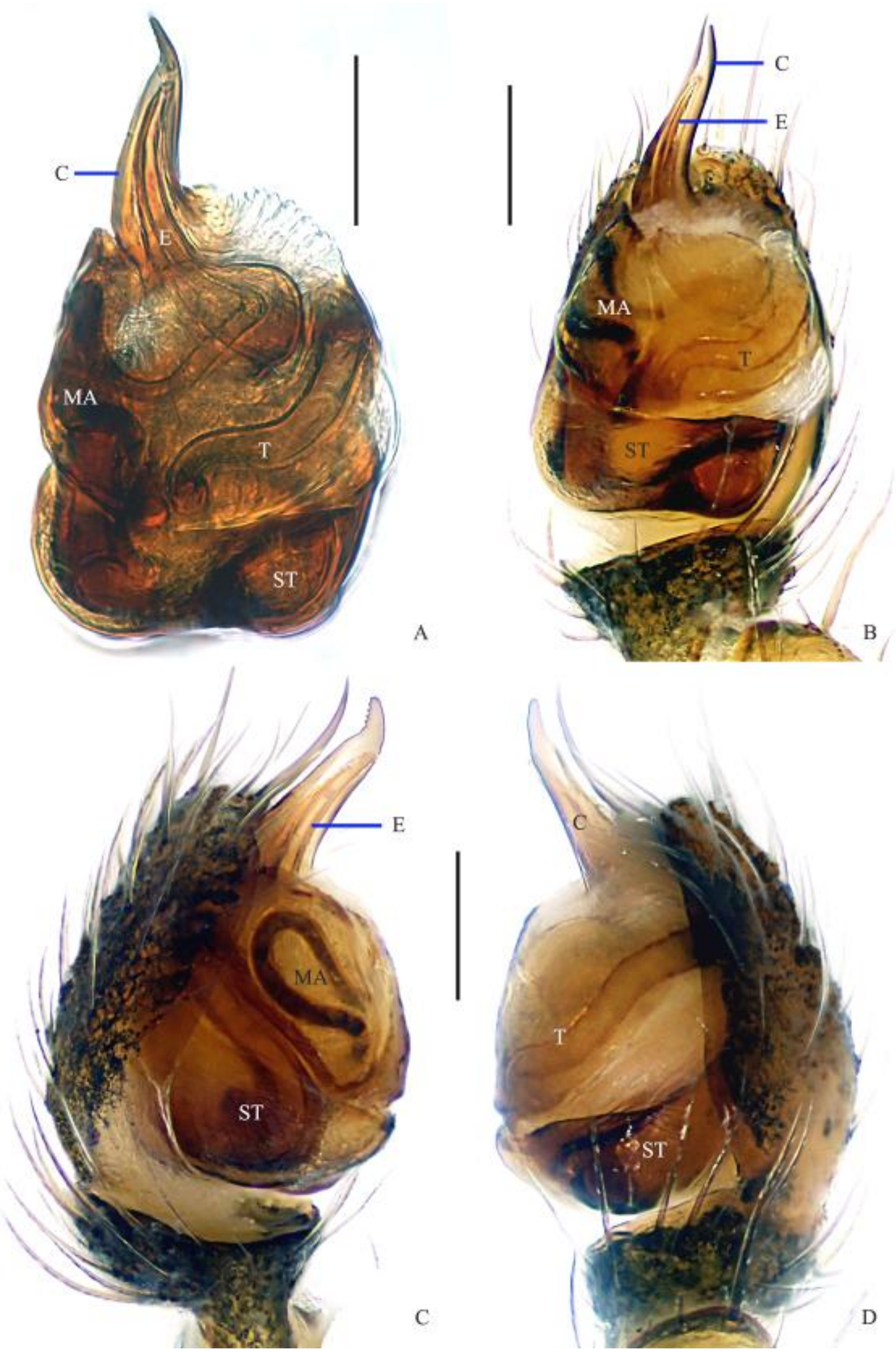

Fig. 39. *Emertonella serrulata* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

spermathecae, opening to anterior margin of atrium; fertilization ducts short, originating from large pair spermathecae.

Distribution. Only known from type locality (Yunnan).

Emertonella taczanowskii (Keyserling, 1886)

Euryopis taczanowskii Keyserling, 1886: 47, pl. 12, fig. 160; Zhu, 1998: 37, figs 17A–D; Song *et al*., 1999: 123, figs 63C–D, G.
Emertonella taczanowskii Yoshida, 2002: 17, figs 31-34 (transfered from *Euryopis*).

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°54.813'N, 101°12.634'E), 5 August 2007, Guo Zheng leg.

Distribution. China (Yunnan); Sri Lanka, USA to Argentina.

Emertonella trachypa sp. nov. (Figs 40–43)

Holotype ♂, China, Yunnan, Xishuangbanna, Mengla County, Menglun Town, bamboo plantation (21°54.386'N, 101°16.803'E), 22 November 2009, Guo Tang and Zhi-Yuan Yao leg.

Paratypes 2♀, same data as holotype.

Etymology. The specific name derives from the Latin adjective *trachypus* and means stipitiform, in reference to the embolus resemble long handle.

Diagnosis. The new species can be distinguished from other species of the genus by the triangular tegular apophysis and the long, handle-shaped embolus.

Male (measurements of holotype). Total length 1.40. Prosoma 0.50 long, 0.49 wide, high, columned, brown, with black striae. Sternum 0.31 long, 0.31 wide, brown. Opisthosoma 0.96 long, 0.82 wide, grey, with many dents, with 2 setae instead of colulus. Eye measurements: AME 0.08, ALE 0.07, PME 0.07, PLE 0.06, AME-AME 0.06, AME-ALE 0.02, PME-PME 0.03, PME-PLE 0.03. Clypeus height about 3.75 times AME diameter, grey. Chelicerae: pale yellow, with dark spots, without tooth; fangs long and slender. Endites: 0.05 long, 0.13 wide, yellow with dark spots, brown pro-edges. Labium fused with sternum, 0.08 long, 0.01 wide, with 4 setae, yellow. Leg measurements: I absent; II 1.19 (0.38, 0.16, 0.25, 0.21, 0.19); III 1.21 (0.41, 0.19, 0.25, 0.19, 0.17); IV 1.27 (0.39, 0.16, 0.34, 0.22, 0.16). Leg II yellow, except femur grey; patella with 1 spine; tibia with 3 spines, 1–2 trichobothria. Leg III–IV similar to leg Ⅱ. Pedipalpus (Figs 40A–B, 41A–B, 43A–D): tibia with 2 trichobothria; cymbium yellow, without spot; paracymbium hooded; subtegulum embeded in tibia; tegulum narrow; median apophysis smooth, without protrusion; embolus long, handle-shaped; conductor membranous; tegular apophysis triangular, short, strong.

Female (measurements of paratypes). Total length 2.05–2.60. Prosoma 0.70–0.80 long, 0.73–0.75 wide, high, columned, brown, with black stripes. Sternum 0.57–0.63 long, 0.43–0.44 wide, brown. Opisthosoma 1.40–2.03 long, 1.15–1.68 wide, grey, with pale spots, many dents. Legs brown, similar to male, femur Ⅰ–IV dark brown. Epigynum (Figs 40C–D, 42A–B) flat; two pairs of spermathecae; anterior pair spermathecae connected by duct; copulatory ducts long, curved, originating from posterior spermathecae, opening to anterior margin of atrium; fertilization ducts short, originating (fix throughout) from upper pair spermathecae.

Distribution. Only known from type locality (Yunnan).

3.13 Genus *Episinus* Latreille, 1809

Episinus gibbus Zhu & Wang, 1995

Episinus gibbus Zhu & Wang, 1995: 278, figs 1–6; Zhu, 1998: 261, figs 173A–F; Song *et al*., 1999: 119, figs 61C–D, J–K.

Material examined. China, Yunnan, 1♂, 4♀, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.984'N, 101°16.982'E), 10 August 2007, Guo Zheng leg.; 3♂, 1♀, Menglun, primary tropical seasonal rainforest (21°55.035'N, 101°16.500'E), 22 July 2007, Guo Zheng leg.; 2♂, 3♀, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°54.200'N, 101°16.923'E), 19–26 March 2007, Guo Zheng leg.

Distribution. China (Hainan, Yunnan).

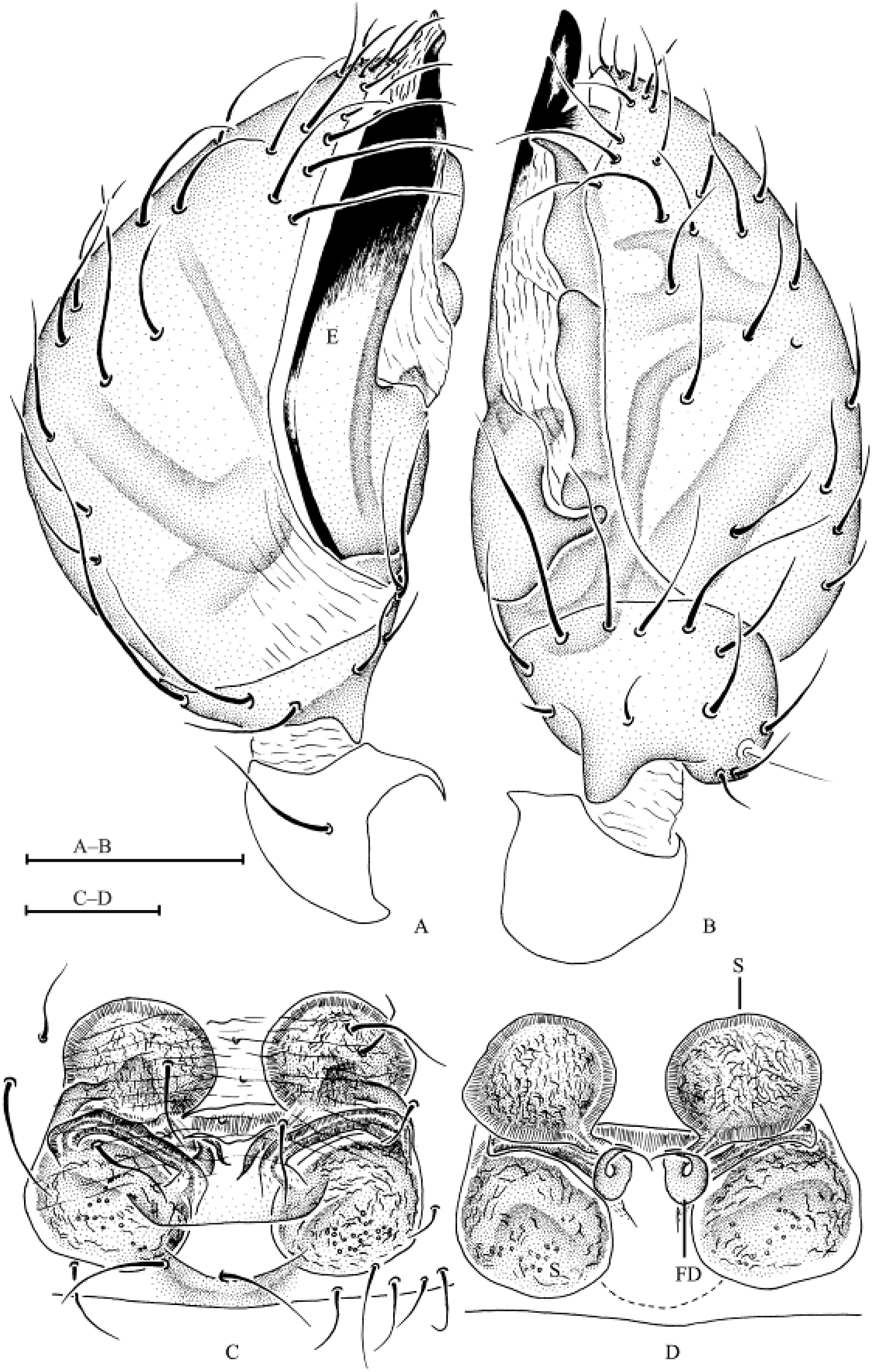

Fig. 40. *Emertonella trachypa* **sp. nov.**, holotype male and paratype female. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view; C. Epigynum (vulva), ventral view; D. Epigynum (vulva), dorsal view. Scale bars = 0.10 mm.

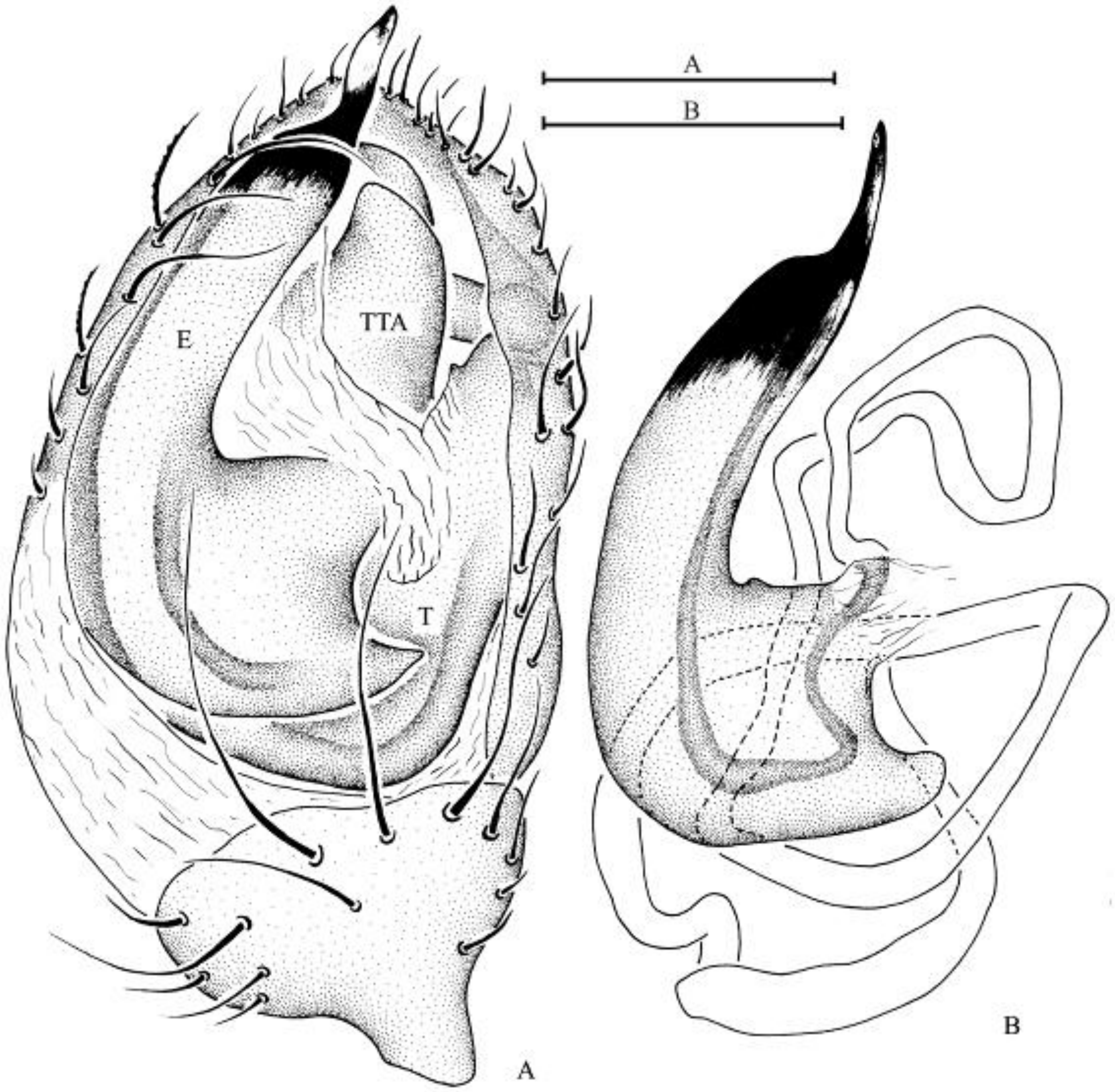

Fig. 41. *Emertonella trachypa* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view. Scale bars = 0.10 mm.

Episinus nubilus Yaginuma, 1960

Episinus nubilus Yaginuma, 1960: append. 3, pl. 11, fig. 66, fig. 38, 101E; Hu, 1984: 163, figs 169.1–2; Song *et al*., 1993: 858, figs 11A–C; Zhu, 1998: 267, figs 178A–F; Song *et al*., 1999: 119, figs 61G–H, P–Q.
Episinus bicornutus Song, 1987: 124, fig. 84; Chen & Zhang, 1991: 147, figs 142.1–4.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.718'N, 101°16.940'E), 19–26 May 2007, Guo Zheng leg.; 1♂, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°53.823'N, 101°17.072'E), 19–25 October 2007, Guo Zheng leg.

Distribution. China (Fujian, Hubei, Hunan, Shanxi, Taiwan, Yunnan, Zhejiang); Japan, Korea.

3.14 Genus *Euryopis* Menge, 1868

Euryopis episinoides (Walckenaer, 1847)

Argus episinoides Walckenaer, 1847: 501.
Euryopis acuminata Zhu, 1998: 36, figs 16A–E; Song *et al*., 1999: 119, figs 62L–O.

Material examined. China, Yunnan, 2♂, Xishuangbanna, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°54.772'N, 101°16.043'E), 19–26 May 2007, Guo Zheng leg.

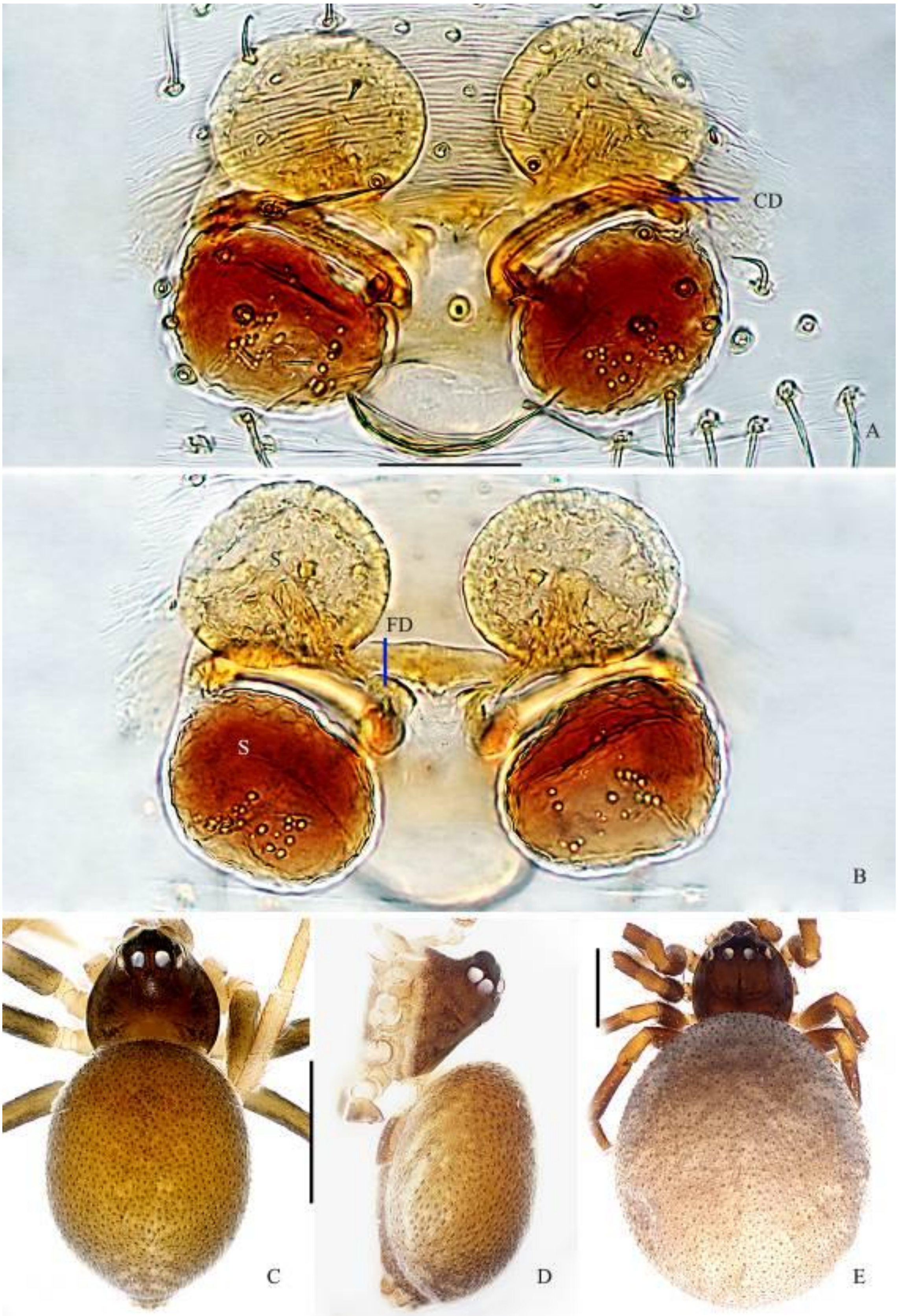

Fig. 42. *Emertonella trachypa* **sp. nov.**, holotype male and paratype female. A. Epigynum (vulva), ventral view; B. Epigynum (vulva), dorsal view; C. Male habitus, dorsal view; D. Male habitus, lateral view; E. Female habitus, dorsal view. Scale bars: A–B = 0.05 mm; C–E = 0.50 mm.

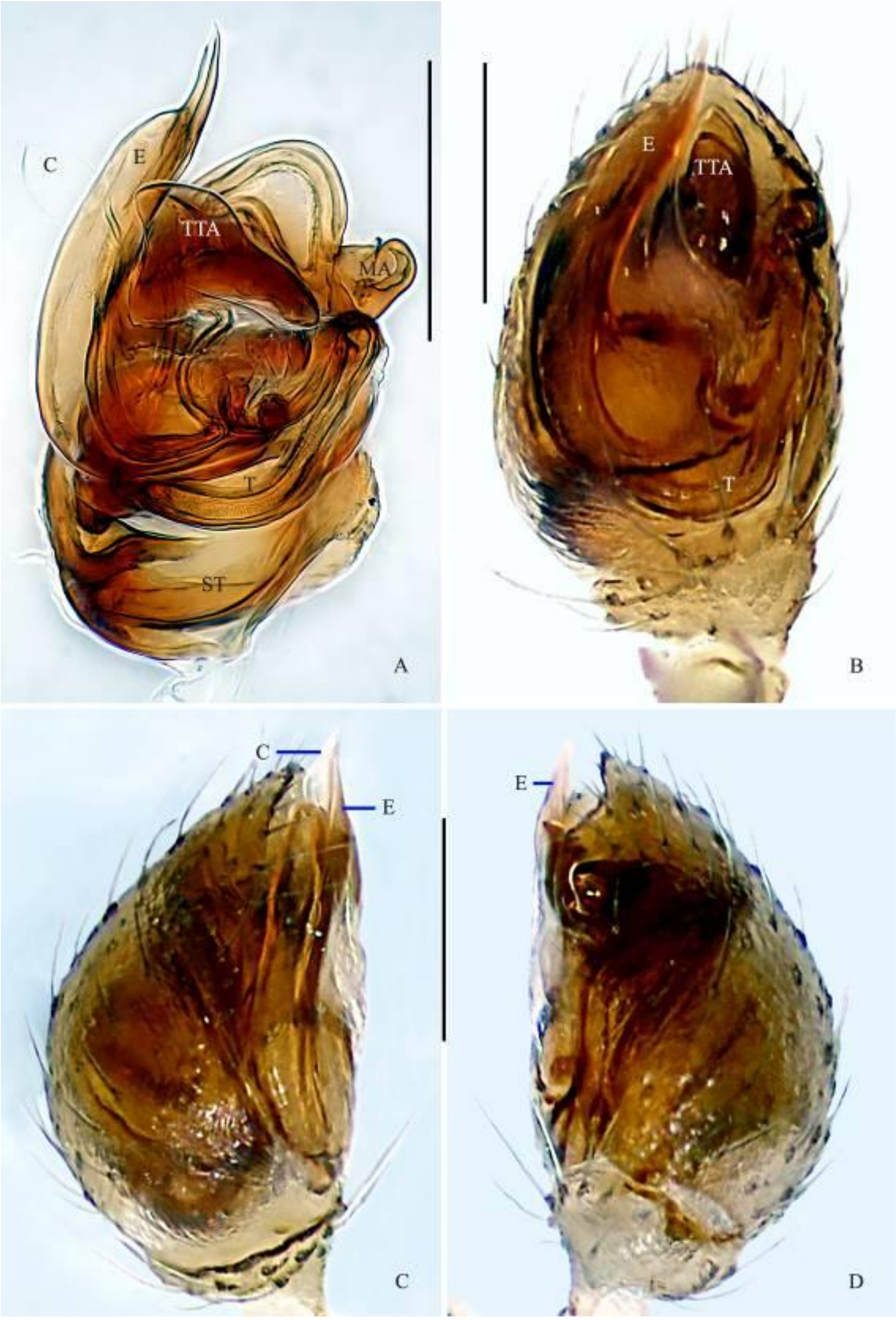

Fig. 43. *Emertonella trachypa* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

Distribution. China (Guangxi, Hainan, Yunnan); Mediterranean.

3.15 Genus *Faiditus* Keyserling, 1884

Faiditus xiphias (Thorell, 1887)

Argyrodes xiphias Thorell, 1887: 95; Zhu, 1998: 218, figs 143A–D; Song *et al*., 1999: 103, figs 48A–B, E; Xu *et al*., 2000: 87, figs 4–5.
Argyrodes levii Zhu & Song, 1991: 138, figs 10A–D; Song *et al*., 1993: 855, figs 7A–D.
Faiditus xiphias Agnarsson, 2004: 479.

Material examined. China, Yunnan, 1♂, 1♀, Xishuangbanna, Menglun, rubber-tea plantation (about 20 years) (21°54.646'N, 101°16.257'E), 19–25 September 2007, Guo Zheng leg.

Distribution. China (Hainan, Taiwan, Yunnan); Krakatau, Myanmar, Nicobar Is. to Japan.

3.16 Genus *Lasaeola* Simon, 1881

Lasaeola okinawana (Yoshida & Ono, 2000)

Dipoena amamiensis Yoshida, 1991: 35, figs 5–6; Zhu, 1998: 242, fig. 159E; Song *et al*., 1999: 110, fig. 53M.

Material examined. China, Yunnan, 4♂, 1♀, Xishuangbanna, Menglun, *Anogeissus acuminata* plantation (about 20 years) (21°53.993'N, 101°16.810'E), 19 August 2007, Guo Zheng leg.; 1♂, 1♀, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.390'N, 101°16.811'E), 10 August 2007, Guo Zheng leg.

Distribution. China (Fujian, Hunan, Yunnan).

Lasaeola yoshidai (Ono, 1991)

Dipoena yoshidai Ono in Ono *et al*., 1991: 91, figs 2–8.
Lasaeola yoshidai Yoshida, 2002: 13.

Material examined. China, Yunnan, 6♂, 4♀, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°54.813'N, 101°12.634'E), 5 August 2007, Guo Zheng leg.; 2♂, 1♀, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°57.809'N, 101°12.173'E), 4 August 2007, Guo Zheng leg.

Distribution. China (Yunnan); Japan, Korea.

3.17 Genus *Molione* Thorell, 1892

Molione kinabalu Yoshida, 2003

Molione kinabalu Yoshida, 2003b: 88, figs 10–13, 16–19.

Material examined. China, Yunnan, 1♀, Xishuangbanna, Menglun, primary tropical seasonal rainforest (21°55.035'N, 101°16.500'E), 22 July 2007, Guo Zheng leg.

Distribution. China (Yunnan); Borneo.

Molione lemboda Gao & Li, 2010

Molione lemboda Gao & Li 2010a: 27, figs 1–6.

Material examined. Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.718'N, 101°16.940'E), 27 July 2007, Guo Zheng leg.

Distribution. China (Yunnan).

Molione triacantha Thorell, 1892

Molione triacantha Thorell, 1892: 216; Zhu, 1998: 30, figs 13A–D; Song *et al*., 1999: 123, figs 64A–C.

Material examined. China, Yunnan, 3♂, 4♀, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.390'N, 101°16.811'E), 10 August 2007, Guo Zheng leg.; 3♂, 1♀, Menglun, rubber plantation (about 20 years) (21°54.498'N, 101°16.326'E), 17 July 2007, Guo Zheng leg.

Distribution. China (Fujian, Taiwan, Yunnan); Malaysia, Singapore.

3.18 Genus *Moneta* O. P.-Cambridge, 1870

Moneta mirabilis (Bösenberg & Strand, 1906)

Hyptimorpha mirabilis Bösenberg & Strand, 1906: 136, pl. 11, fig. 227.
Moneta mirabilis Zhu, 1998: 281, figs 189A–D; Song *et al*., 1999: 123, figs 64H, M.

Material examined. China, Yunnan, 3♂, 3♀, Xishuangbanna, Menglun, *Anogeissus acuminata* plantation (about 20 years) (21°53.993'N, 101°16.810'E), 19 August 2007, Guo Zheng leg.; 3♂, 2♀, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.390'N, 101°16.811'E), 10 July 2007, Guo Zheng leg.

Distribution. China (Taiwan, Yunnan); Japan, Korea, Laos, Malaysia, Taiwan.

Moneta spinigera O. P.-Cambridge, 1870

Moneta spinigera O. P.-Cambridge, 1870: 736, pl. 44, fig. 5.
Episinus spiniger Song, 1987: 125, fig. 86; Chen & Zhang, 1991: 148, figs 143.1–4.
Moneta spiniger Zhu, 1998: 273, figs 182A–D; Song *et al*., 1999: 123, figs 64I–J, N.

Material examined. China, Yunnan, 1♂, 1♀, Xishuangbanna, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°53.823'N, 101°17.072'E), 18 August 2007, Guo Zheng leg.; 1♂, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.718'N, 101°16.940'E), 27 July 2007, Guo Zheng leg.

Distribution. Africa to China (Fujian, Taiwan, Yunnan, Zhejiang).

Moneta subspinigera Zhu, 1998

Moneta subspiniger Zhu, 1998: 274, figs 183A–C; Song *et al*., 1999: 127, figs 65C–D.

Material examined. China, Yunnan, 1♀, Xishuangbanna, Menglun, rubber-tea plantation (about 20 years) (21°54.463'N, 101°15.978'E), 5–12 September 2006, Guo Zheng leg.

Distribution. China (Hainan, Yunnan).

3.19 Genus *Nojimaia* Yoshida, 2009

Nojimaia nipponica Yoshida, 2009

Nojimaia nipponica Yoshida, 2009a: 72, figs 6–10.

Material examined. China, Yunnan, 3♂, Xishuangbanna, Menglun, primary tropical seasonal rainforest (21°55.035'N, 101°16.500'E), 22 July 2007, Guo Zheng leg.

Distribution. China (Yunnan); Japan.

3.20 Genus *Parasteatoda* Archer, 1946

Diagnosis. The genus differ from other genera by the paracymbium hooded; median apophysis attached to embolus; embolus usually long; conductor short; epigynum with large depression (Yoshida, 2008).

Parasteatoda gui (Zhu, 1998)

Achaearanea gui Zhu, 1998: 114, figs 69A–C; Song *et al*., 1999: 90, figs 40K–L.
Parasteatoda gui Yoshida, 2008: 39.

Material examined. China, Yunnan, 2♂, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.718'N, 101°16.940'E), 27 July 2007, Guo Zheng leg.; 2♂, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°54.767'N, 101°11.431'E), 6 August 2007, Guo Zheng leg.

Distribution. China (Hainan, Yunnan).

Parasteatoda japonica (Böesenberg & Strand, 1906)

Theridion japonicum Bösenberg & Strand, 1906: 140, pl. 12, fig. 283; Lee, 1966: 28, figs 6i–k; Hu, 1984: 168, figs 175.1–3.
Achaearanea japonica Chen & Gao, 1990: 89, figs 111a–b; Zhu, 1998: 89, figs 51A–E; Song *et al*., 1999: 91, figs 40A–B, M–N.
Achaearanea japonicum Chen & Zhang, 1991: 140, figs 132.1–2.
Parasteatoda japonica Yoshida, 2008: 39.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun, rubber-tea plantation (about 20 years) (21°54.463'N, 101°15.978'E), 16–31 January 2007, Guo Zheng leg.

Distribution. China (Guangxi, Guizhou, Hainan, Hunan, Sichuan, Taiwan, Yunnan, Zhejiang); Japan, Korea, Laos.

Parasteatoda kompirensis (Böesenberg & Strand, 1906)

Theridion kompirense Bösenberg & Strand, 1906: 141, pl. 5, fig. 41, pl. 12, fig. 284; Song, 1980: 136, figs 72a–c; Hu, 1984: 169, figs 176.1–3.
Achaearanea kompirensis Song *et al*., 1997: 1706, figs 3a–e; Zhu, 1998: 109, figs 66A–E; Song *et al*., 1999: 91, figs 40E–F, O–P.
Achaearanea kompirense Chen & Gao, 1990: 90, figs 112a–b; Chen & Zhang, 1991: 141, figs 133.1–2; Zhao, 1993: 202, figs 93a–b.
Parasteatoda kompirensis Yoshida, 2008: 39.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun, *Anogeissus acuminata* plantation (about 20 years) (21°53.993'N, 101°16.810'E), 19 August 2007, Guo Zheng leg.

Distribution. China (Hubei, Hunan, Shandong, Sichuan, Taiwan, Yunnan, Zhejiang); Japan, Korea.

Parasteatoda oculiprominens (Saito, 1939)

Nesticus oculiprominentis Saito, 1939: 52, fig. 6 (5), pl. 1, fig. 7.
Achaearanea oculiprominentis Zhu, 1998: 95, figs 55A–E; Song *et al*., 1999: 91, figs 41A–B, G–H.
Parasteatoda oculiprominens Yoshida, 2008: 39.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°54.772'N, 101°16.043'E), 16–31 March 2007, Guo Zheng leg.

Distribution. China (Guangxi, Hainan, Sichuan, Yunnan); Japan, Laos, Korea.

Parasteatoda palmata sp. nov. (Figs 44–46)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, primary tropical seasonal rainforest (21°57.669'N, 101°11.893'E), 5–12 November 2006, Guo Zheng leg.

Paratypes: 1♂, Menglun Nature Reserve, primary tropical seasonal rainforest (21°57.669'N, 101°11.893'E), 19–25 November 2006, Guo Zheng leg.; 1♂, Menglun Nature Reserve, primary tropical seasonal rainforest (21°57.445'N, 101°12.997'E), 10–20 June 2007, Guo Zheng leg.

Etymology. The specific name derives from the Latin adjective *palmatus* and means palmlike, in reference to the conductor shaped like palm.

Diagnosis. The new species is very similar to *P. campanulata*, but can be distinguished by the conductor palmlike; tegular apophysis with 2 distal apophyses.

Male (measurements of holotype). Total length 1.60. Prosoma 0.79 long, 0.69 wide, flat, yellow, with black stripes, 3 setae. Sternum 0.44 long, 0.44 wide, grey, with some setae. Opisthosoma 0.86 long, 0.56 wide, pale, with black stripes, long setae, without colulus. Eye measurements: AME 0.09, ALE 0.09, PME 0.09, PLE 0.09, AME-AME 0.09, AME-ALE 0.03, PME-PME 0.06, PME-PLE 0.05. Clypeus height about 1.43 times AME diameter, yellow. Chelicerae: yellow, with 2 anterior teeth; fangs long and slender. Endites: 0.21 long, 0.09 wide, yellow, with brown pro-edges. Labium fused with sternum, 0.06 long, 0.14 wide, with 6 setae, yellow. Leg measurements: I 4.25 (1.30, 0.25, 1.09, 1.15, 0.46); II 3.36 (1.00, 0.31, 0.81, 0.75, 0.49); III 2.62 (0.81, 0.26, 0.56, 0.59, 0.40); IV 3.04 (0.94, 0.28, 0.71, 0.73, 0.38). Leg I coxa pale yellow, without spot; femur yellow without spot; patella-tarsus pale yellow, without spot; femur with 2 rows of spines; patella with 1 distal spine; tibia with many spines, one of them very strong; metatarsus and tarsus with many spines. Legs II–IV similar

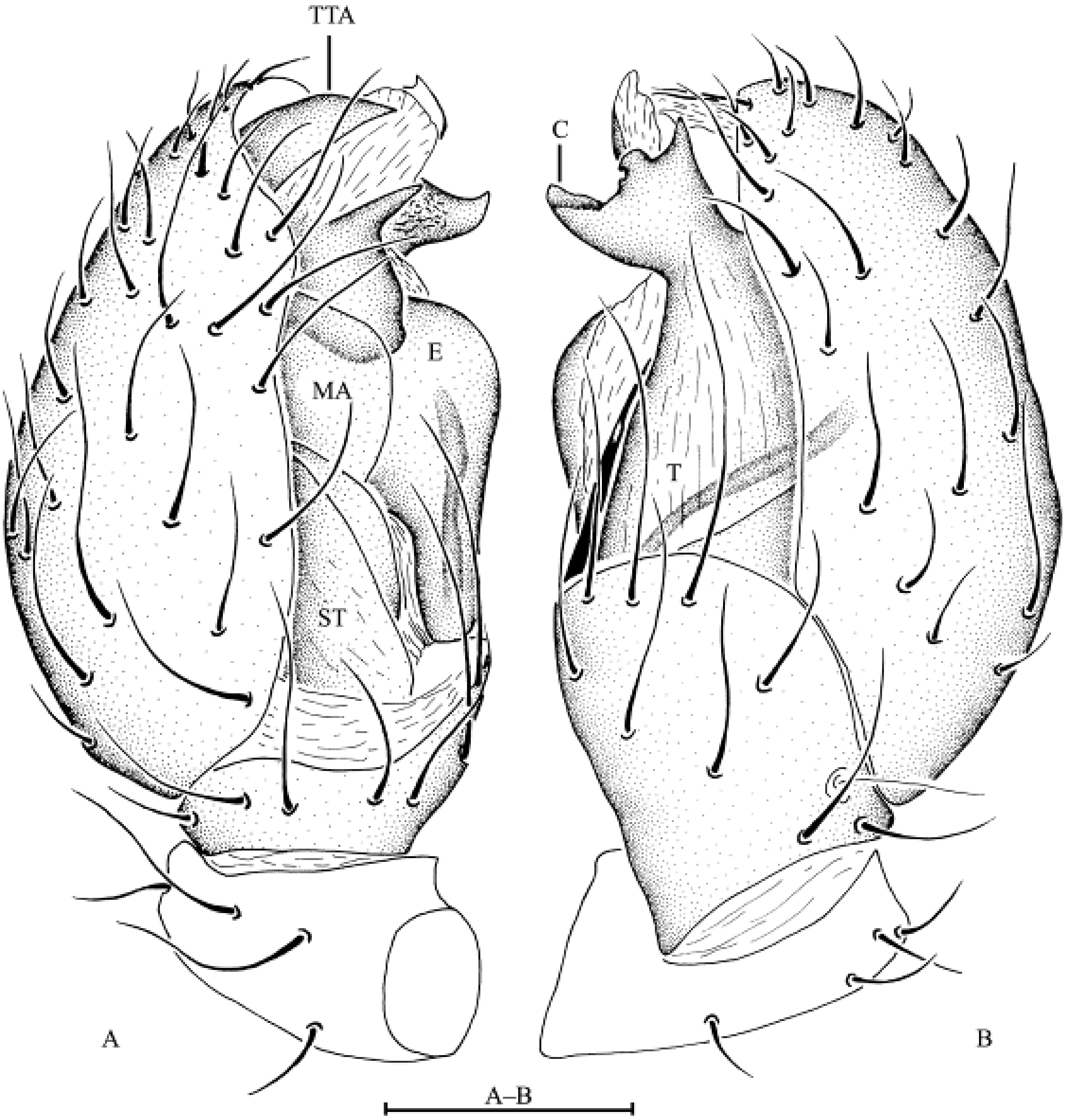

Fig. 44. *Parasteatoda palmata* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

to leg I, femora pale yellow. Pedipalpus (Figs 44A–B, 45A–C, 46A–D): tibia pale yellow, with 1 trichobothrium; cymbium pale yellow, with black spot; paracymbium hooded; subtegulum confined; tegulum broad; median apophysis smooth; embolus long, contrarotate; conductor palmated; tegular apophysis with 2 acute apophyses.

Variation. Male paratypes. One male with black edge on prosoma. Opisthosoma grey with pale spots; legs pale yellow, femur, patella, tibia, metatarsus and tarsus with black spot. Total length 1.63–1.65; prosoma 0.75–0.88 long, 0.68–0.81 wide; sternum 0.44–0.45 long, 0.46–0.50 wide; opisthosoma 0.88–1.00 long, 0.64–0.74 wide.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

***Parasteatoda transipora* (Zhu & Zhang, 1992)**

Theridion transiporum Zhu & Zhang, 1992: 27, figs 7A–C.
Achaearanea transipora Zhu, 1998: 91, figs 52A–E; Song *et al.*, 1999: 95, figs 44A–D.
Parasteatoda transipora Yoshida, 2008: 39.

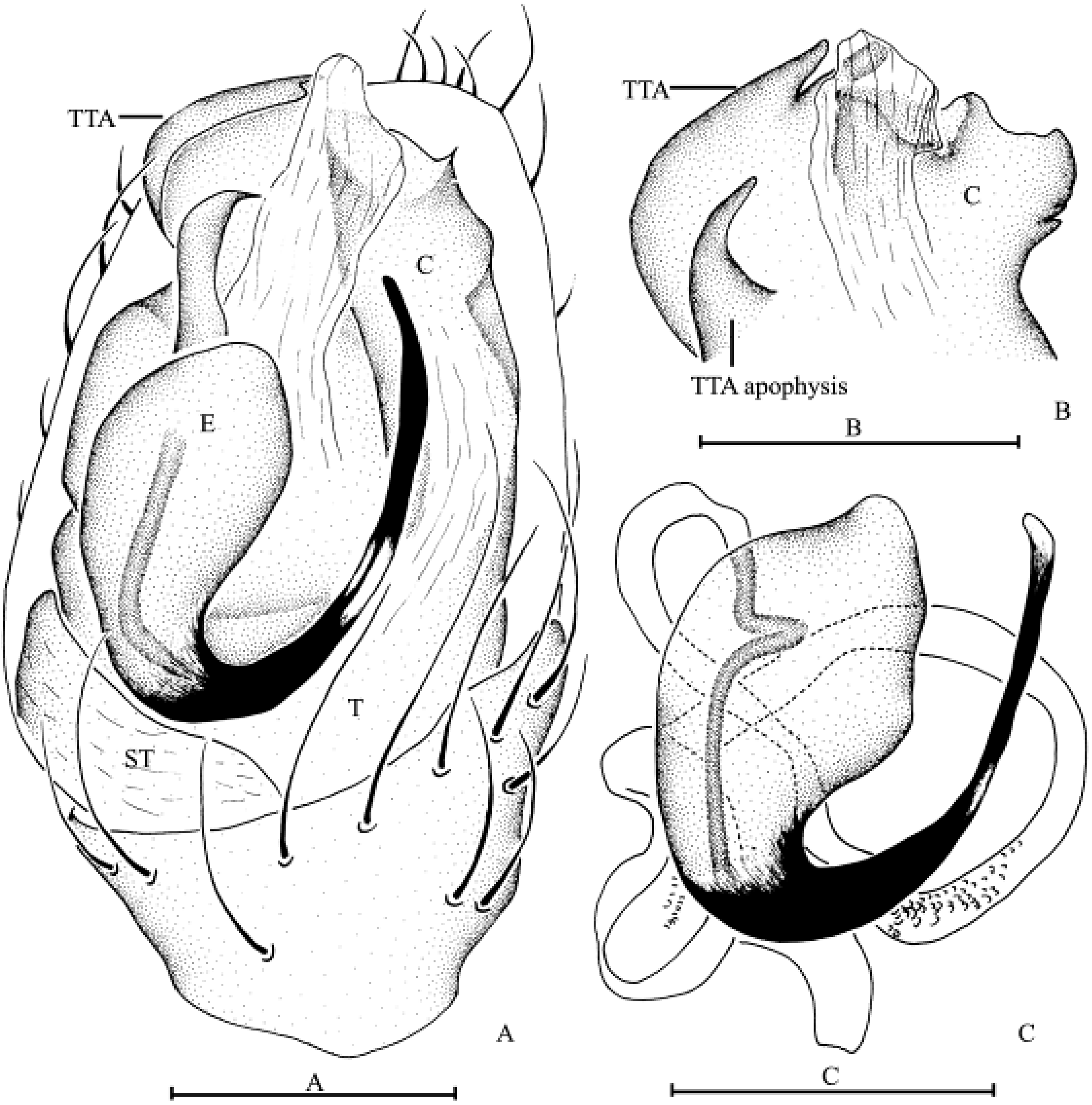

Fig. 45. *Parasteatoda palmata* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Conductor and TTA, ventral view; C. Embolus, ventral view. Scale bars = 0.10 mm.

Material examined. China, Yunnan, 3♂, 1♀, Xishuangbanna, Menglun Nature Reserve, primary tropical seasonal rainforest (21°57.669'N, 101°11.893'E), 7 August 2007, Guo Zheng leg.; 1♂, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.607'N, 101°17.005'E), 28 July 2007, Guo Zheng leg.

Distribution. China (Hainan, Guangxi, Yunnan).

3.21 Genus *Phoroncidia* Westwood, 1835

Diagnosis. The genus differ from other genera by the eye region frequently strongly overhanging the prosoma; opisthosoma with a large sclerotized ring around the spinnerets, which hide the colulus; tegular apophysis base bulky (Agnarsson *et al*., 2007; Wunderlich, 2008).

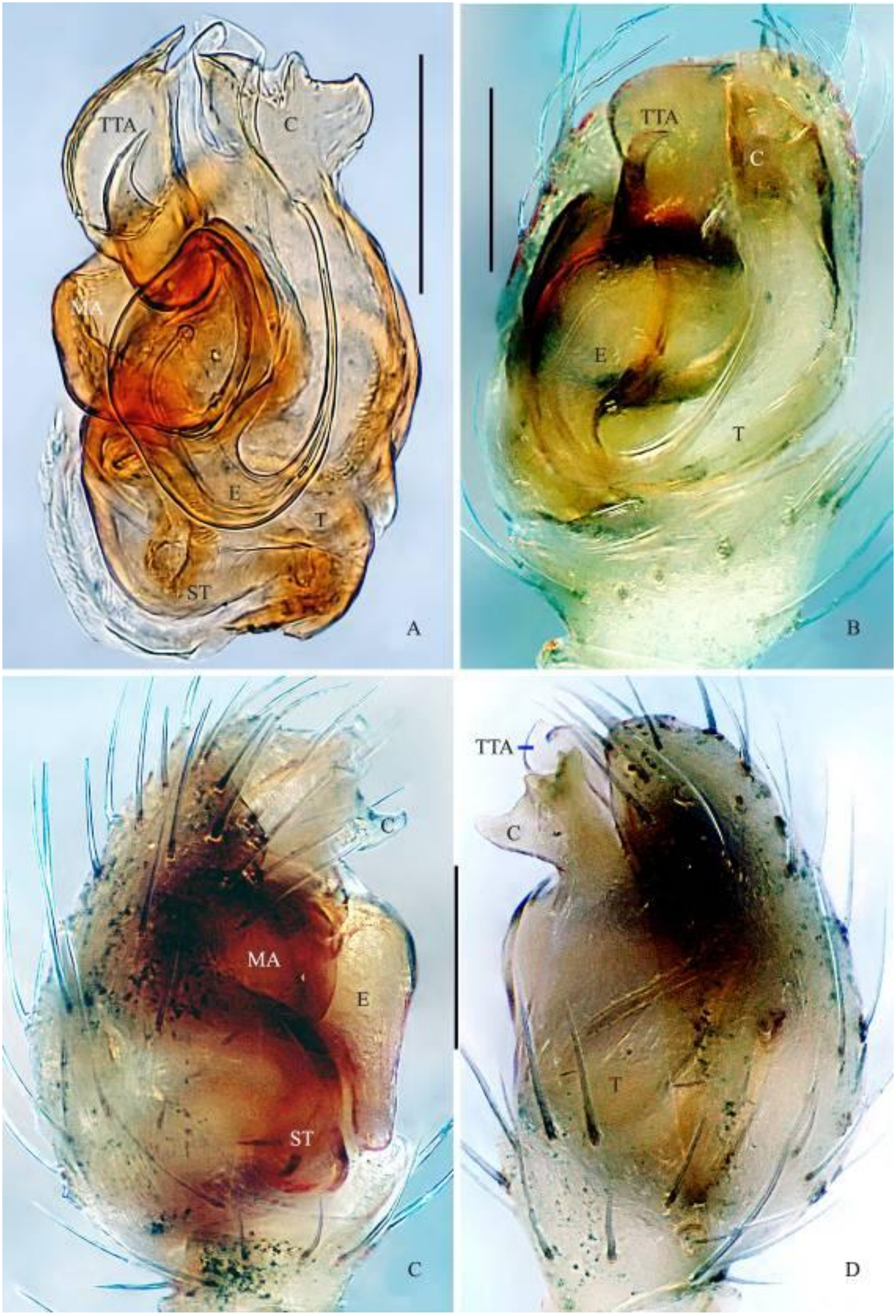

Fig. 46. *Parasteatoda palmata* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

Phoroncidia aculeata Westwood, 1835

Phoroncidia aculeata Westwood, 1835: 453, pl. 22, fig. 19.

Material examined. China, Yunnan, 1♀, Xishuangbanna, Menglun Nature Reserve, primary tropical seasonal rainforest (21 °54.607'N, 101 °17.005'E), 28 July 2007, Guo Zheng leg.; 1♂, Menglun Nature Reserve, primary tropical seasonal moist forest (21 °57.445'N, 101 °12.997'E), 30 July 2007, Guo Zheng leg.

Distribution. China (Yunnan); India.

Phoroncidia crustula Zhu, 1998

Phoroncidia crustula Zhu, 1998: 29, figs 12A–D; Song *et al*., 1999: 127, figs 66C–D.

Material examined. China, Yunnan, 2♀, Xishuangbanna, Menglun Nature Reserve, primary tropical seasonal rainforest (21 °57.669'N, 101 °11.893'E), 7 August 2007, Guo Zheng leg.

Distribution. China (Hainan, Yunnan).

Phoroncidia floripara sp. nov. (Figs 47–50)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21 °54.607'N, 101 °17.005'E), 28 July 2007, Guo Zheng leg.

Paratypes: 1♂, 1♀, Menglun, *Anogeissus acuminata* plantation (about 20 years) (21 °53.993'N, 101 °16.810'E), 19 August 2007, Guo Zheng leg.

Etymology. The specific name derives from the Latin adjective *floriparus* and means bearing flowers, in reference to the opisthosoma with many apophyses, seems to blooming flower in dorsal view.

Diagnosis. The new species is similar to *P. pilula*, but can be distinguished by a columned apophysis originating from the opisthosoma; conductor membranous; tegular apophysis with 2 apophyses.

Male (measurements of holotype). Total length 2.25. Prosoma 1.33 long, 0.68 wide, high, brown, anterior part extruded. Sternum 0.43 long, 0.43 wide, brown, with setae. Opisthosoma 2.30 long, 1.48 wide, sclerotized, white, with many brown dents, apophyses; columned apophysis originates from center of opisthosoma, without colulus. Eye measurements: AME 0.08, ALE 0.07, PME 0.08, PLE 0.07, AME-AME 0.11, AME-ALE 0.03, PME-PME 0.07, PME-PLE 0.06. Clypeus height about 6.16 times AME diameter, brown, with tiny apophysis under AME. Chelicerae: brown, without tooth; fangs long. Endites: 0.23 long, 0.09 wide, brown, distal pale, with dark pro-edges. Labium fused with sternum, 0.10 long, 0.21 wide, with 4 setae, brown. Leg measurements: I 1.98 (0.67, 0.28, 0.40, 0.25, 0.38); II 1.66 (0.61, 0.19, 0.33, 0.25, 0.28); III 1.72 (0.56, 0.25, 0.33, 0.25, 0.33); IV 2.16 (0.71, 0.30, 0.48, 0.31, 0.36). Leg I coxa brown, without spot; femur, patella brown; tibia pale, with brown ring; metatarsus pale, with brown ring; tarsus pale; femur without spine; patella with 3 short spines; tibia with 3 spines, 3 trichobothria; metatarsus with 1 trichobothrium; tarsus without spine. Legs II–IV similar to leg I, tarsus pale with brown ring. Pedipalpus (Figs 47A–B, 48A–C, 50A–D): tibia yellow, with 1 trichobothrium; cymbium yellow, without spot; paracymbium hooked, from distal part of cymbium; subtegulum broad; tegulum large; median apophysis smooth, without protrusion; embolus long, distal from tegular apophysis; conductor membranous; tegular apophysis with 2 acute apophyses.

Variation. Male paratype. Total length 2.20; prosoma 1.25 long, 0.88 wide; sternum 0.44 long, 044 wide; opisthosoma 2.23 long, 1.60 wide.

Female (measurements of paratype). Total length 3.20. Prosoma 1.25 long, 0.95 wide, flat, brown, anterior part extruded. Sternum 0.55 long, 0.55 wide, brown, with setae. Opisthosoma 3.00 long, 2.10 wide, yellow, with brown dents, many apophyses, columned apophysis from center of opisthosoma. Clypeus height about 1.23 times AME diameter, brown, with apophysis under AME. Legs brown or pale brown, similar to male. Epigynum (Figs 47C–D, 49A–B): epigynum flat, without handle; copulatory openings small, narrow; spermathecae spherical, with pleats; copulatory ducts long, curved, from bottom of spermathecae, opening to anterior margin of atrium; fertilization ducts short, curved, from bottom of spermathecae.

Distribution. Only known from type locality (Yunnan).

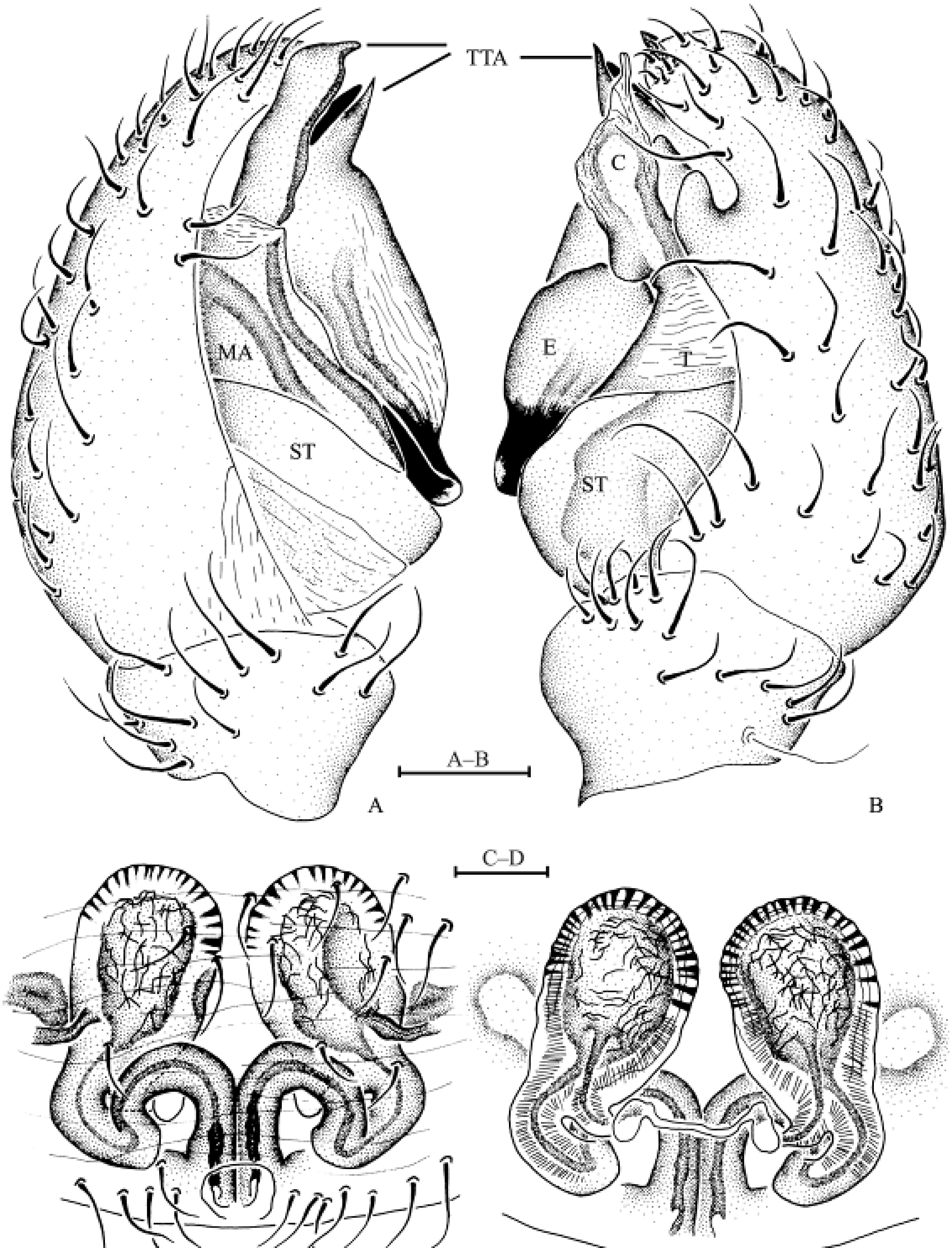

Fig. 47. *Phoroncidia floripara* **sp. nov.**, holotype male and paratype female. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view; C. Epigynum (vulva), ventral view; D. Epigynum (vulva), dorsal view. Scale bars = 0.10 mm.

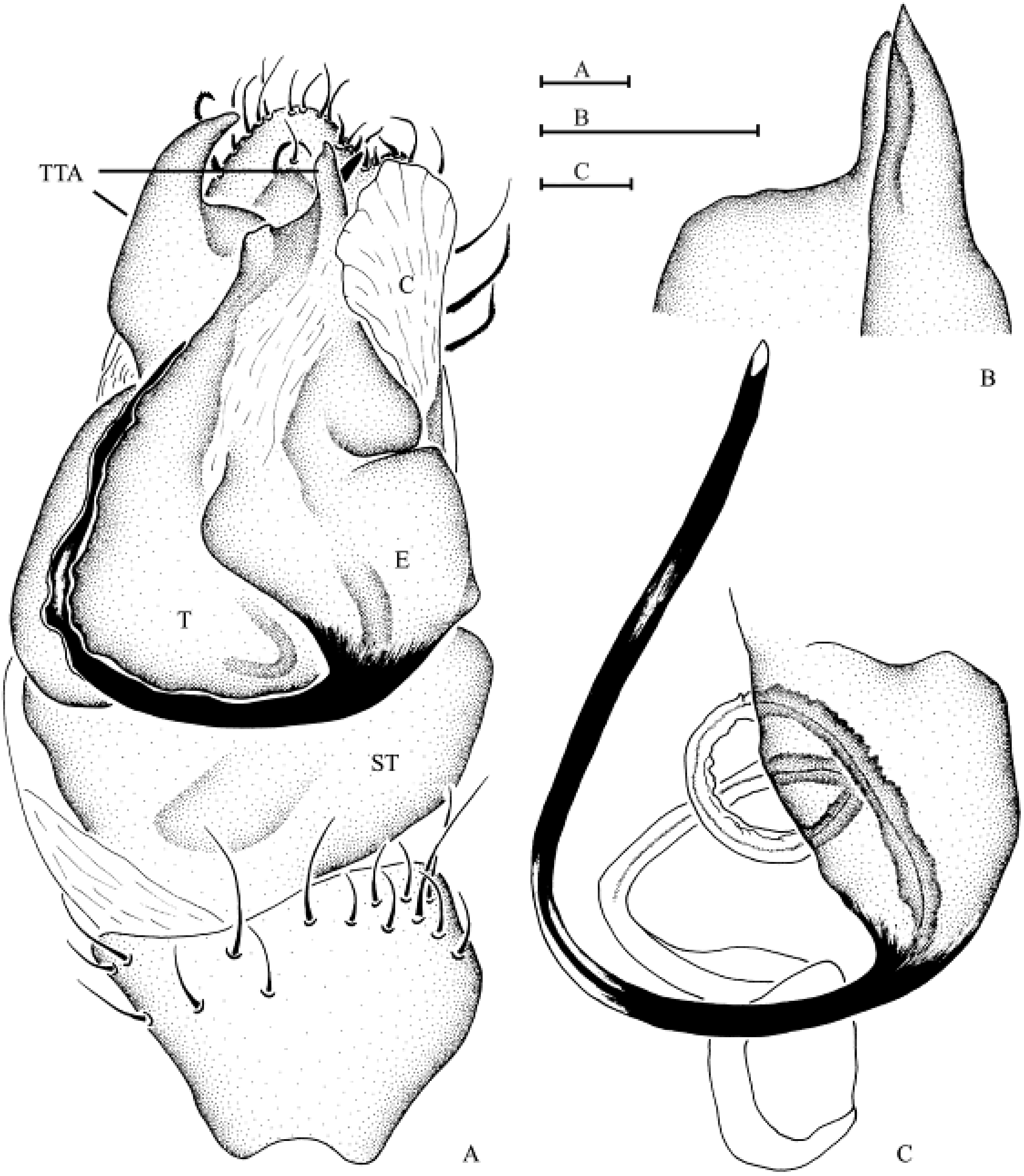

Fig. 48. *Phoroncidia floripara* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. TTA, ventral view; C. Embolus, ventral view. Scale bars = 0.05 mm.

3.22 Genus *Phycosoma* O. P.-Cambridge, 1879

Diagnosis. The genus differ from other hadrotarsines by the prosoma cylindrical, with groove; male pedipalpus with small embolus and conductor; median apophysis absent; epigynum with small scapus (Yoshida, 2002).

***Phycosoma corrugum* sp. nov.** (Figs 51–54)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°54.809'N, 101°12.173'E), 4 August 2007, Guo Zheng leg.

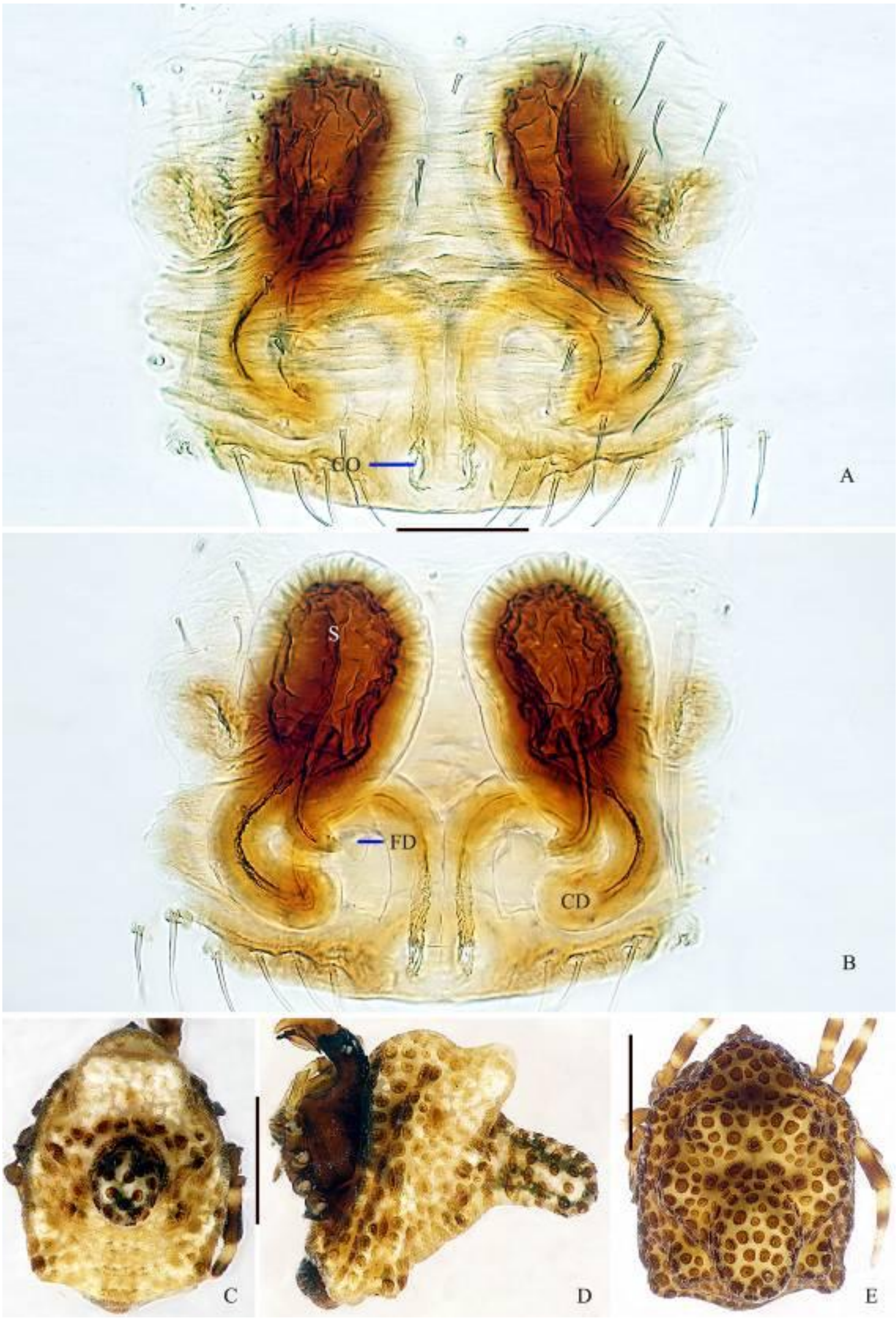

Fig. 49. *Phoroncidia floripara* **sp. nov.**, holotype male and paratype female. A. Epigynum (vulva), ventral view; B. Epigynum (vulva), dorsal view; C. Male habitus, dorsal view. D. Male habitus, lateral view. E. Female habitus, dorsal view. Scale bars: A–B = 0.10 mm; C–E = 1.00 mm.

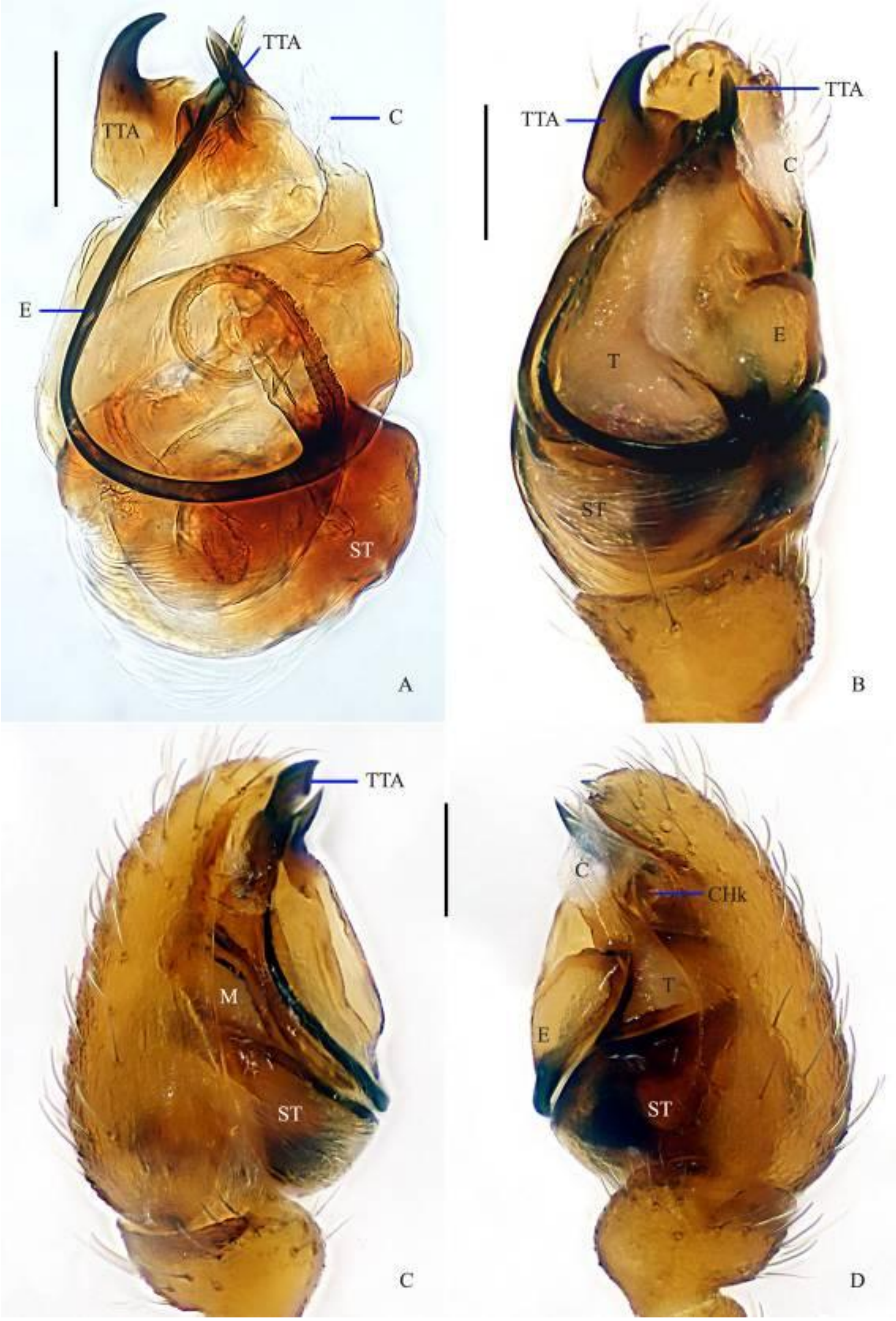

Fig. 50. *Phoroncidia floripara* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

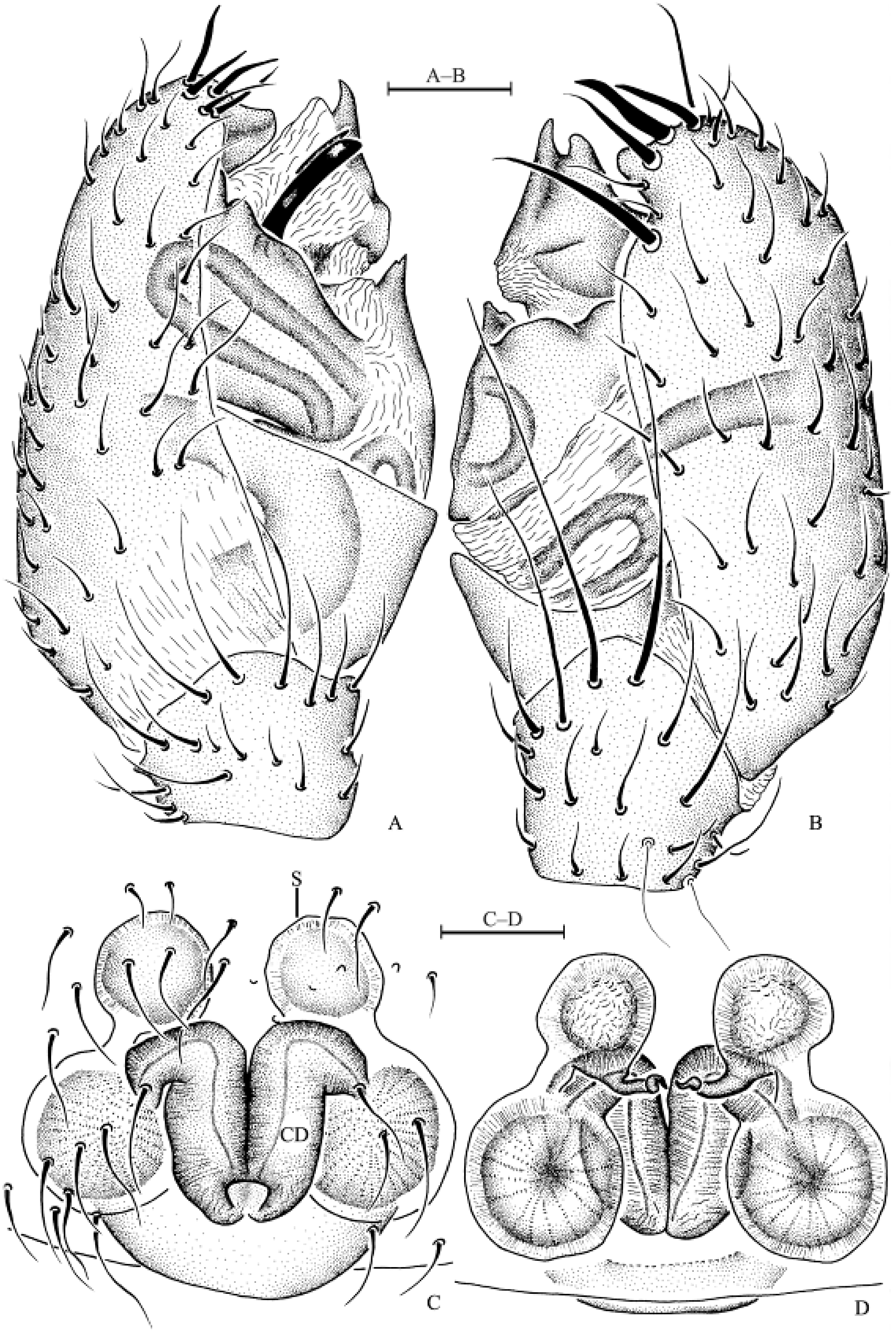

Fig. 51. *Phycosoma corrugum* **sp. nov.**, holotype male and paratype female. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view; C. Epigynum (vulva), ventral view; D. Epigynum (vulva), dorsal view. Scale bars = 0.10 mm.

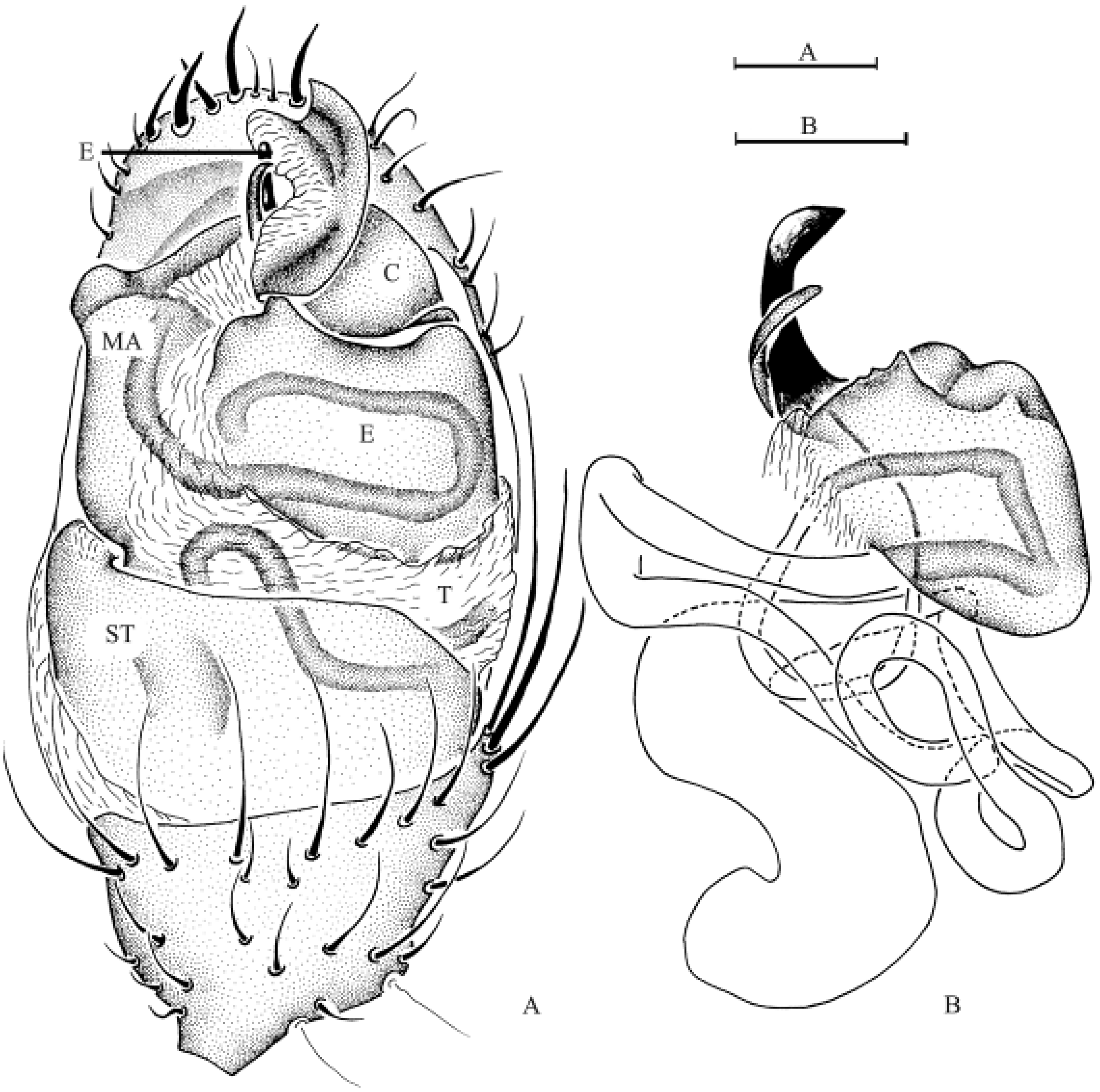

Fig. 52. *Phycosoma corrugum* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view. Scale bars = 0.10mm.

Paratypes 2♀, same data as holotype.

Etymology. The specific name derives from the Latin adjective *corrugus* and means crumpled, in reference to the conductor with many little wrinkles.

Diagnosis. The new species is very similar to *P. mustelinum*, but can be distinguished by shape of the duct connecting themedian apophysis with the embolus in ventral view; copulatory ducts stronger, copulatory openings similar to inverted "U".

Male (measurements of holotype). Total length 2.50. Prosoma 1.10 long, 0.88 wide, high, columned, yellow, with dark striae, dorsal grooves in middle. Sternum 0.60 long, 0.60 wide, grey. Opisthosoma 1.38 long, 1.10 wide, grey, with pale spots, large white spots, colulus represented by 2 setae. Eye measurements: AME 0.15, ALE 0.08, PME 0.11, PLE 0.09, AME-AME 0.09, AME-ALE 0.04, PME-PME 0.08, PME-PLE 0.09. Clypeus height about 3.33 times AME diameter, brown. Chelicerae: yellow, with dark spots, without tooth; fangs long and slender. Endites: 0.25 long, 0.13 wide, yellow with dark spots and brown pro-edges. Labium fused with sternum, 0.06 long, 0.19 wide, with 4 setae, yellow. Leg measurements: I 3.06 (1.00, 0.38, 0.65, 0.63, 0.40); II 2.76 (0.88, 0.33, 0.63, 0.54, 0.38); III 2.59 (0.81, 0.31, 0.59, 0.53, 0.35); IV 2.91 (0.88, 0.25, 0.75, 0.63, 0.40). Leg I pale yellow, femur, patella and tibia with black spots; with many spines,

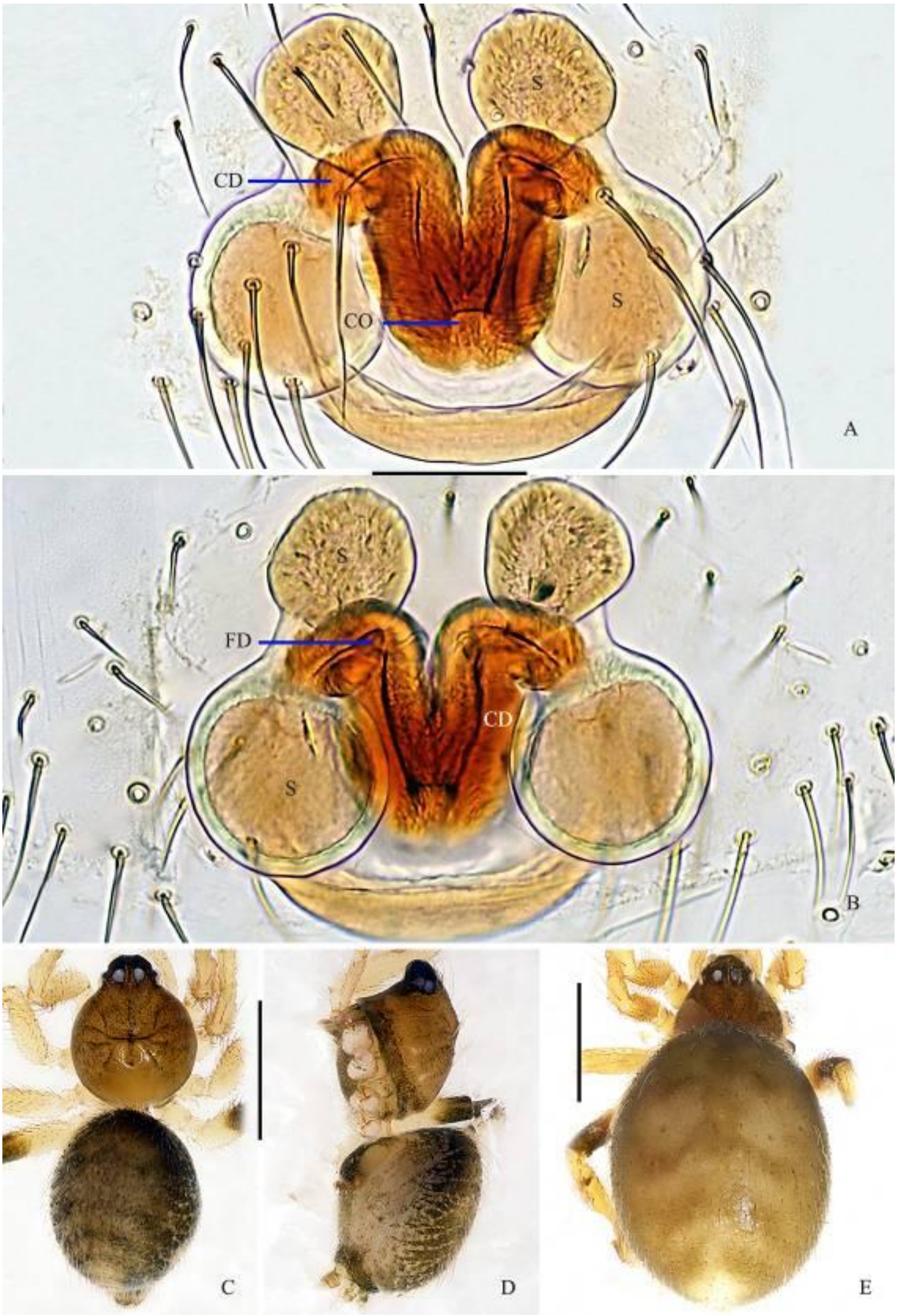

Fig. 53. *Phycosoma corrugum* **sp. nov.** , holotype male and paratype female. A. Epigynum (vulva), ventral view; B. Epigynum (vulva), dorsal view; C. Male habitus, dorsal view; D. Male habitus, lateral view; E. Female habitus, dorsal view. Scale bars: A–B = 0.10 mm; C–E = 1.00 mm.

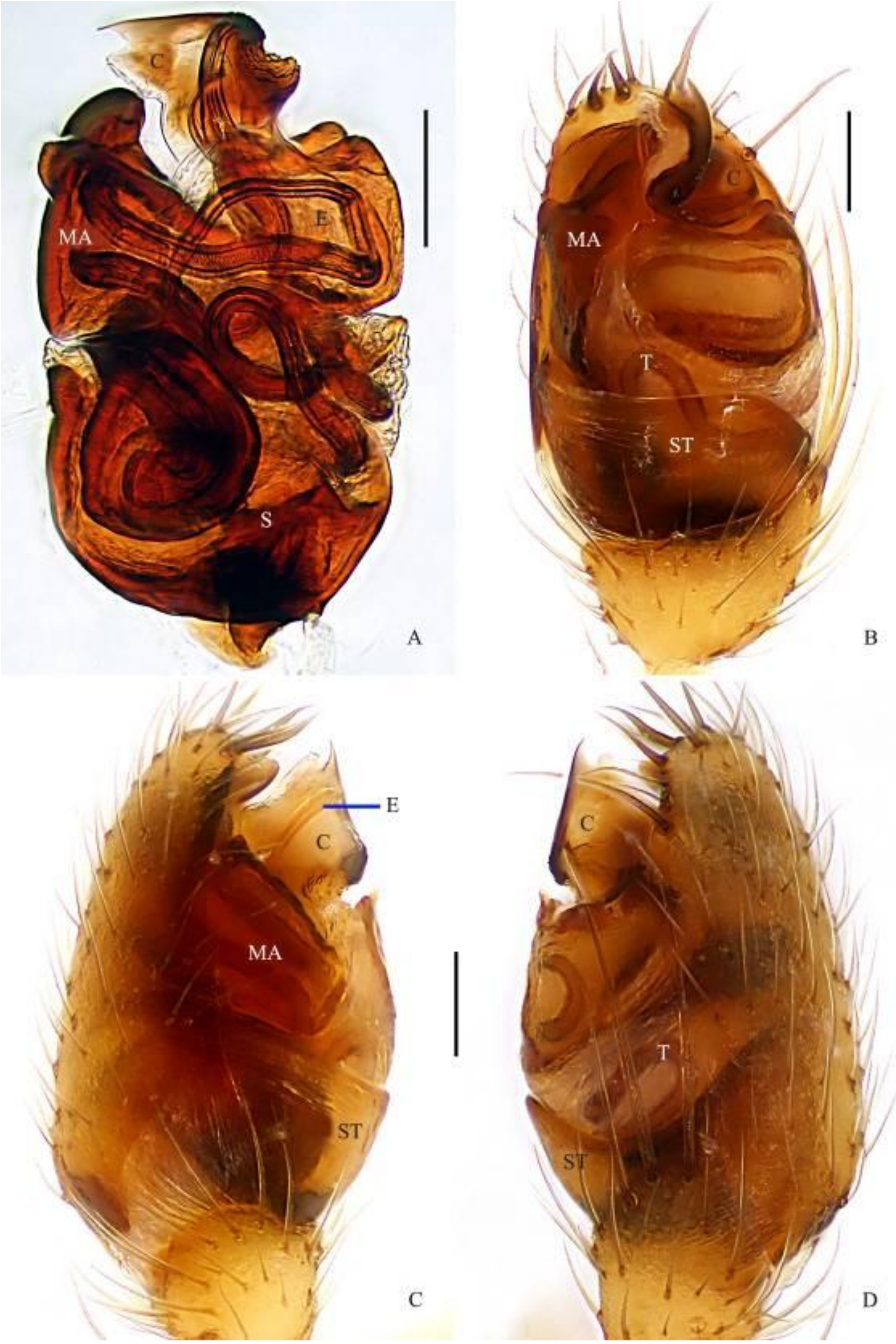

Fig. 54. *Phycosoma corrugum* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

patella with 1 spine; tibia with 1–2 spines. Legs II–IV similar to leg I, femur IV, patella and tibia IV with black rings. Pedipalpus (Figs 51A–B, 52A–B, 54A–D): tibia with 2 trichobothria; cymbium yellow, without spot; paracymbium hooded; subtegulum broad; tegulum conjoined with median apophysis and embolus; median apophysis smooth, without protrusion; embolus long, partlycovered by conductor, with small protuberances, long basal protrusion; conductor curved, wrinkled after expansion.

Female (measurements of paratypes). Total length 2.60–3.10. Prosoma 1.00–1.01 long, 0.88–0.95 wide, high, yellow, with black striae, without groove. Sternum 0.55–0.60 long, 0.58–0.60 wide, grey. Opisthosoma 1.80–2.25 long, 1.20–1.70 wide, grey, with small pale spots, large pale stripes. Legs yellow, similar to male. Epigynum (Figs 51C–D, 53A–B): epigynum flat, with handle; copulatory openings similar to inverted “U”; one large pair, one small pair of spermathecae, spherical; copulatory ducts strong, curved, from large spermathecae, opening to anterior margin of atrium; fertilization ducts short, curved, from small pair of spermathecae.

Distribution. Only known from type locality (Yunnan).

***Phycosoma crenatum* sp. nov.** (Figs 55–57)

Holotype ♂, China, Yunnan, Xishuangbanna, Mengla County, Menglun Town, *Paramichelia baillonii* plantation (about 20 years) (21°54.772'N, 101°16.043'E), 6 February–2 March 2007, Guo Zheng leg.

Etymology. The specific name derives from the Latin adjective *crenatus* and means cratered, in reference to the vas deferens with lots of dents.

Diagnosis. The new species is similar to *P. flavomarginatum*, but can be distinguished having by the vas deferens similar to inverted “U” in median apophysis and the conductor embedded in embolus.

Male. Total length 1.80. Prosoma 0.93 long, 0.85 wide, high, columned, pale, with black stripes, dorsal grooves in the middle. Sternum 0.50 long, 0.50 wide, pale. Opisthosoma 0.85 long, 0.83 wide, pale, with black spots, large black stripes, long bristles, without colulus. Eye measurements: AME 0.11, ALE 0.06, PME 0.09, PLE 0.09, AME-AME 0.10, AME-ALE 0.03, PME-PME 0.06, PME-PLE 0.06. Clypeus height about 4.55 times AME diameter, pale with large black spot. Chelicerae: yellow, with dark spots, without tooth; fangs long and slender. Endites: 0.21 long, 0.11 wide, yellow, with brown pro-edges. Labium fused with sternum, 0.08 long, 0.10 wide, without seta, grey. Leg measurements: I 2.69 (0.85, 0.28, 0.65, 0.58, 0.33); II 2.42 (0.73, 0.28, 0.58, 0.54, 0.29); III 2.45 (0.78, 0.29, 0.50, 0.55, 0.33); IV 3.08 (1.00, 0.31, 0.69, 0.68, 0.40). Leg I pale yellow, femur, patella and tibia with black spots; patella with 1 strong spine; tibia with 2 strong spines. Legs II–IV similar to leg I, femur IV, patella and tibia IV with black rings. Pedipalpus (Figs 55A–B, 56A–D, 57A–D): tibia with 2 trichobothria; cymbium yellow, without process; paracymbium hooked; subtegulum broader than tegulum; median apophysis smooth, without processes; tegulum narrow, conjoined with median apophysis and embolus; embolus short, with two small and one long protrusion, tip with long membranous outgrowth; conductor short, without sawtooth, imbedded in embolus.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

***Phycosoma flavomarginatum* (Böesenberg & Strand, 1906)**

Dipoena flavomarginata Bösenberg & Strand, 1906: 151, pl. 12, fig. 279; Zhu, 1998: 231, figs 150A–D; Song *et al.*, 1999: 110, figs 53K–L, P.

Dipoena immaculata Zhu, 1998: 251, figs 167A–D; Song *et al.*, 1999: 112, figs 54M–N.

Phycosoma flavomarginatum Yoshida, 2009b: 391, figs 343–344.

Material examined. China, Yunnan, 4♂, 3♀, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.390'N, 101°16.811'E), 10 August 2007, Guo Zheng leg.; 2♂, 2♀, Menglun Nature Reserve, primary tropical seasonal rainforest (21°57.669'N, 101°11.893'E), 7 August 2007, Guo Zheng leg.; 4♂, 1♀, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°54.772'N, 101°16.043'E), 18 July 2007, Guo Zheng leg.

Distribution. China (Hubei, Yunnan); Japan, Korea.

***Phycosoma ligulaceum* sp. nov.** (Figs 58–60)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen

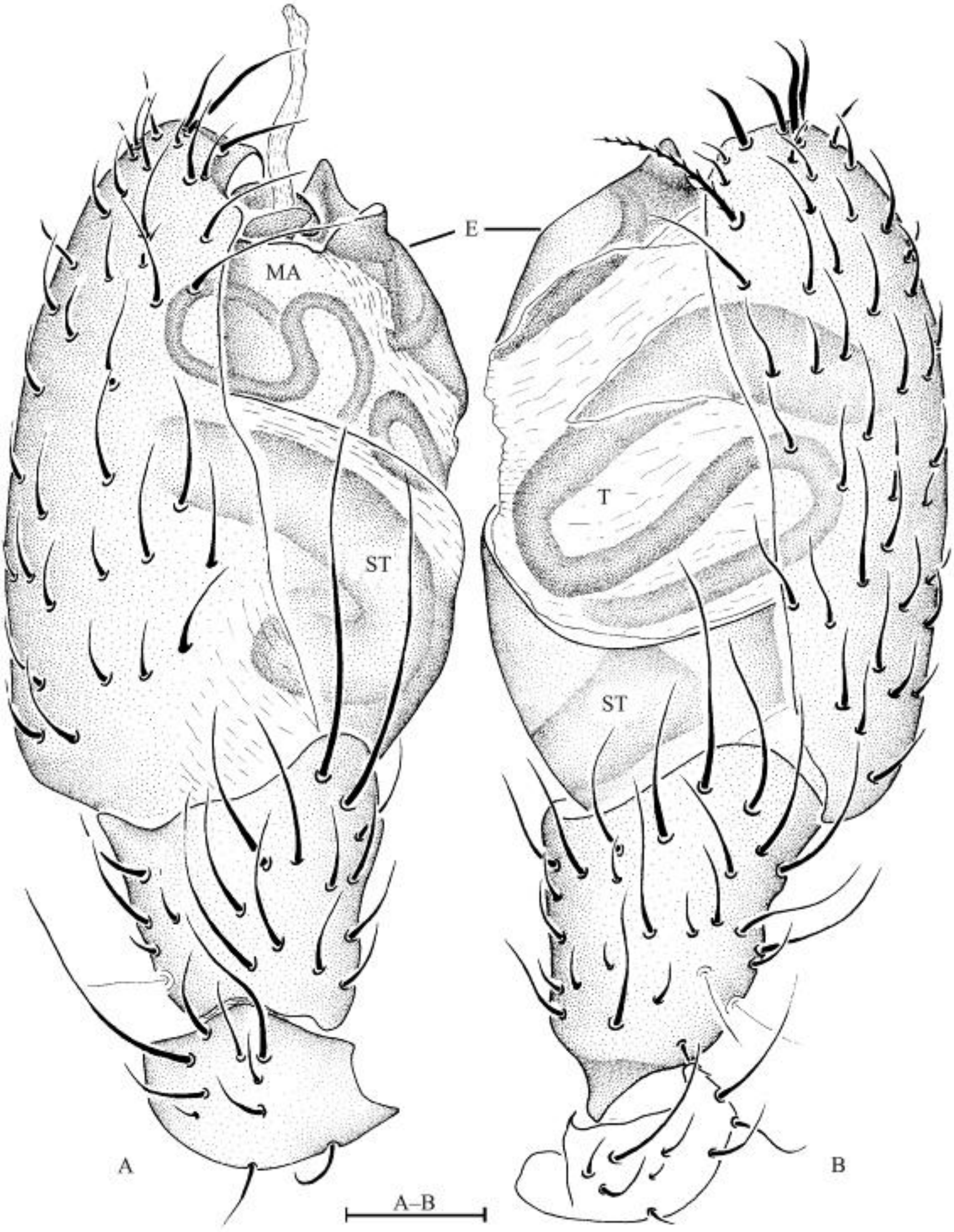

Fig. 55. *Phycosoma crenatum* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.10 mm.

broad-leaved forest (21°54.813'N, 101°12.634'E), 5–12 February 2007, Guo Zheng leg.

Etymology. The specific name derives from the Latin adjective *ligulaceus* and means tongue-shaped, in reference to the embolus with a membranous outgrowth, liked a tongue.

Diagnosis. The new species is similar to *P. flavomarginatum*, but can be distinguished by the embolus with a long

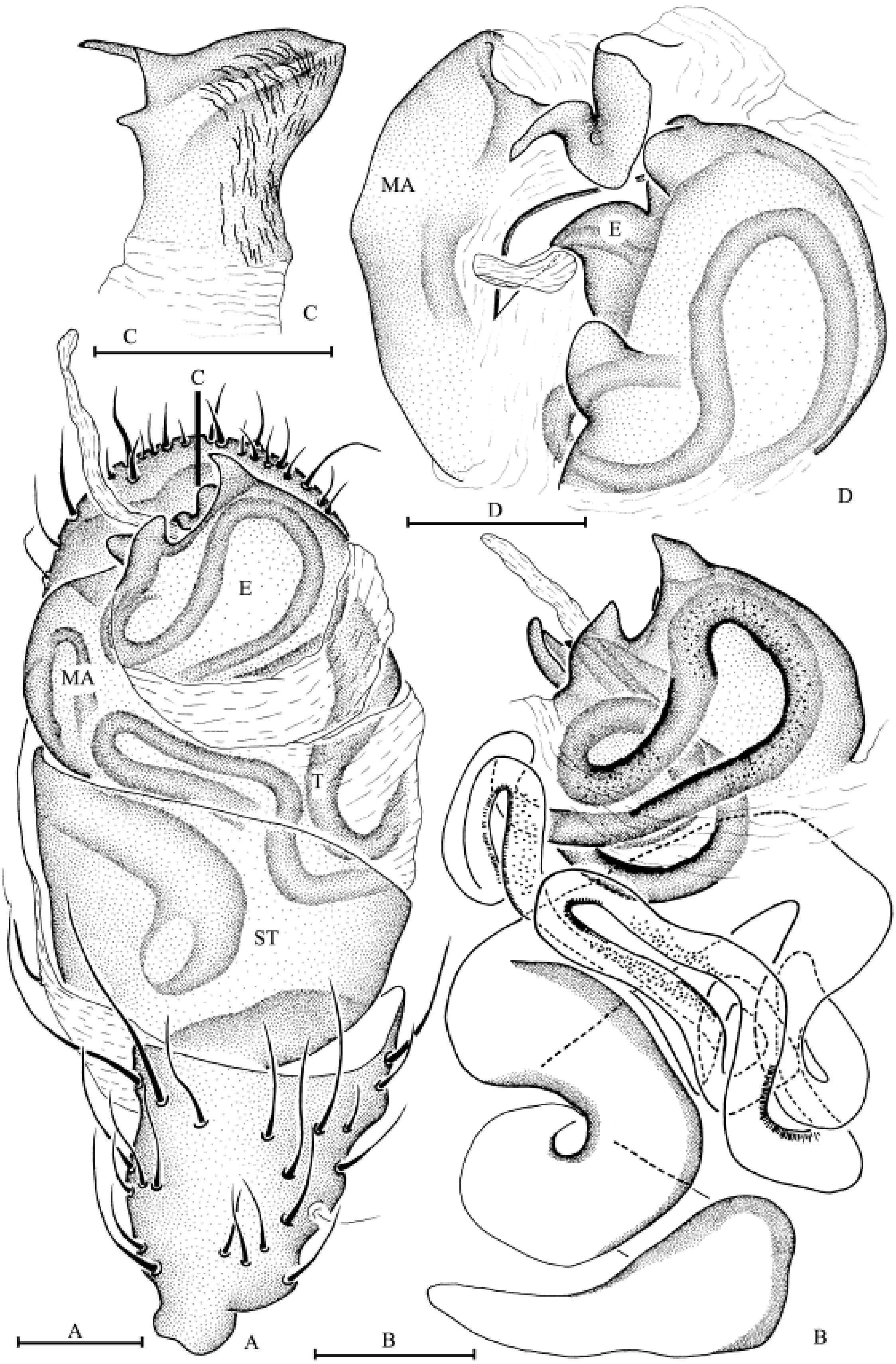

Fig. 56. *Phycosoma crenatum* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view; C. Conductor, ventral view; D. Pedipalpus (cymbium removed), apical view. Scale bars = 0.10mm.

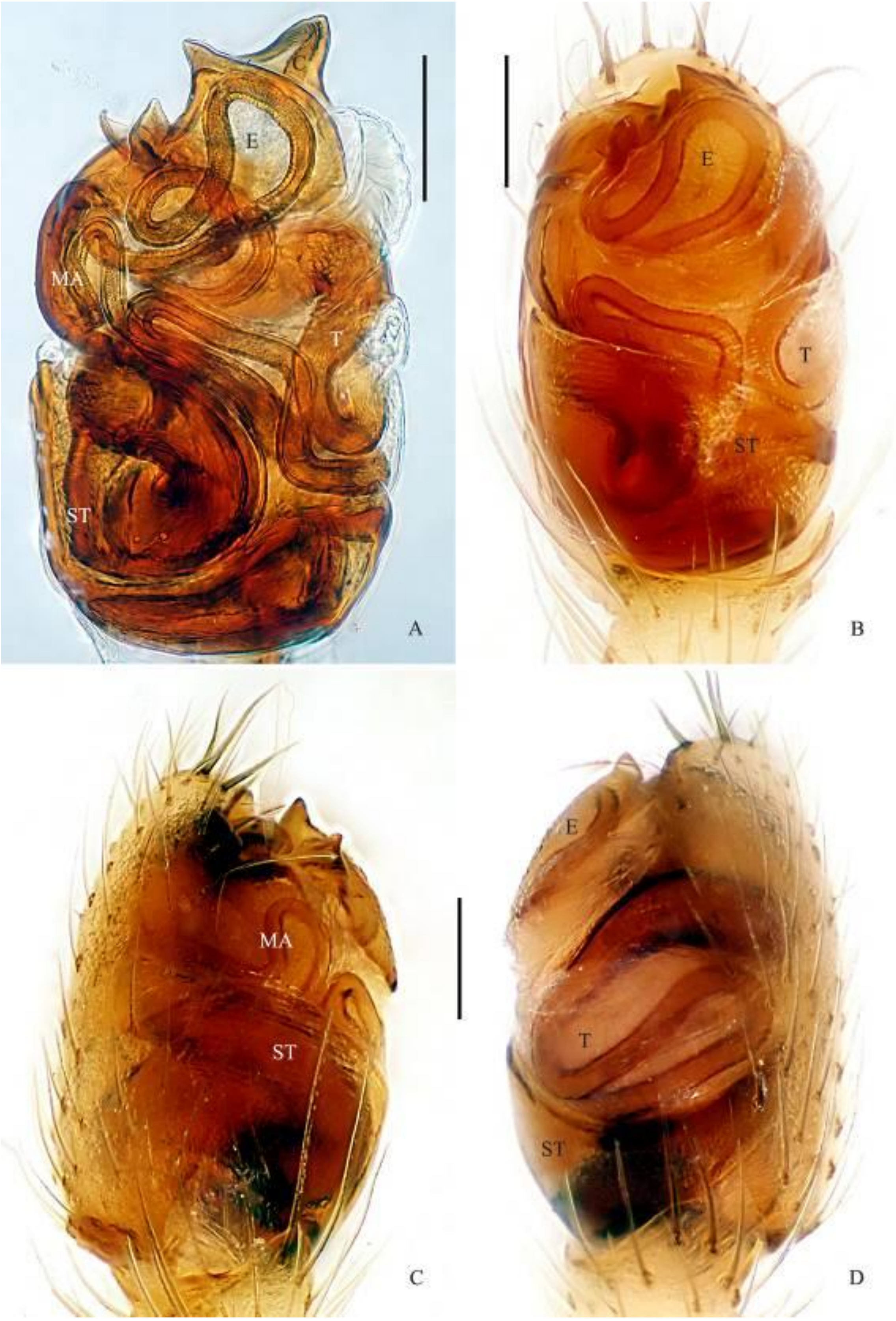

Fig. 57. *Phycosoma crenatum* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

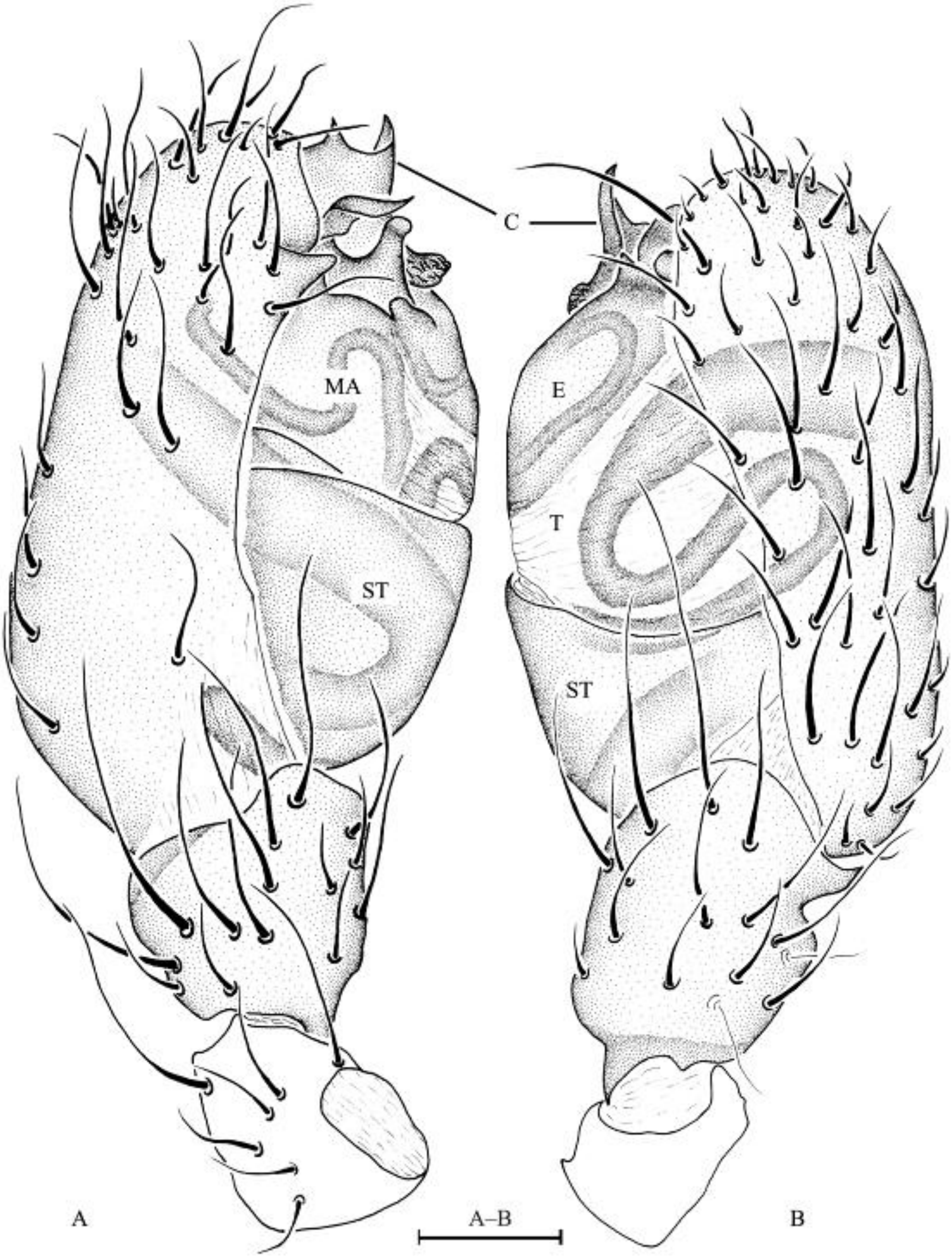

Fig. 58. *Phycosoma ligulaceum* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.10 mm.

basal protrusion and a membranous outgrowth; the conductor with sawteeth.

Male. Total length 1.88. Prosoma 0.88 long, 0.78 wide, high, columned, pale, with black stripes, dorsal grooves in middle. Sternum 0.50 long, 0.50 wide, pale. Opisthosoma 1.10 long, 0.75 wide, pale, with black spots, large black stripes, long bristles, without colulus. Eye measurements: AME 0.10, ALE 0.08, PME 0.09, PLE 0.08, AME-AME 0.09,

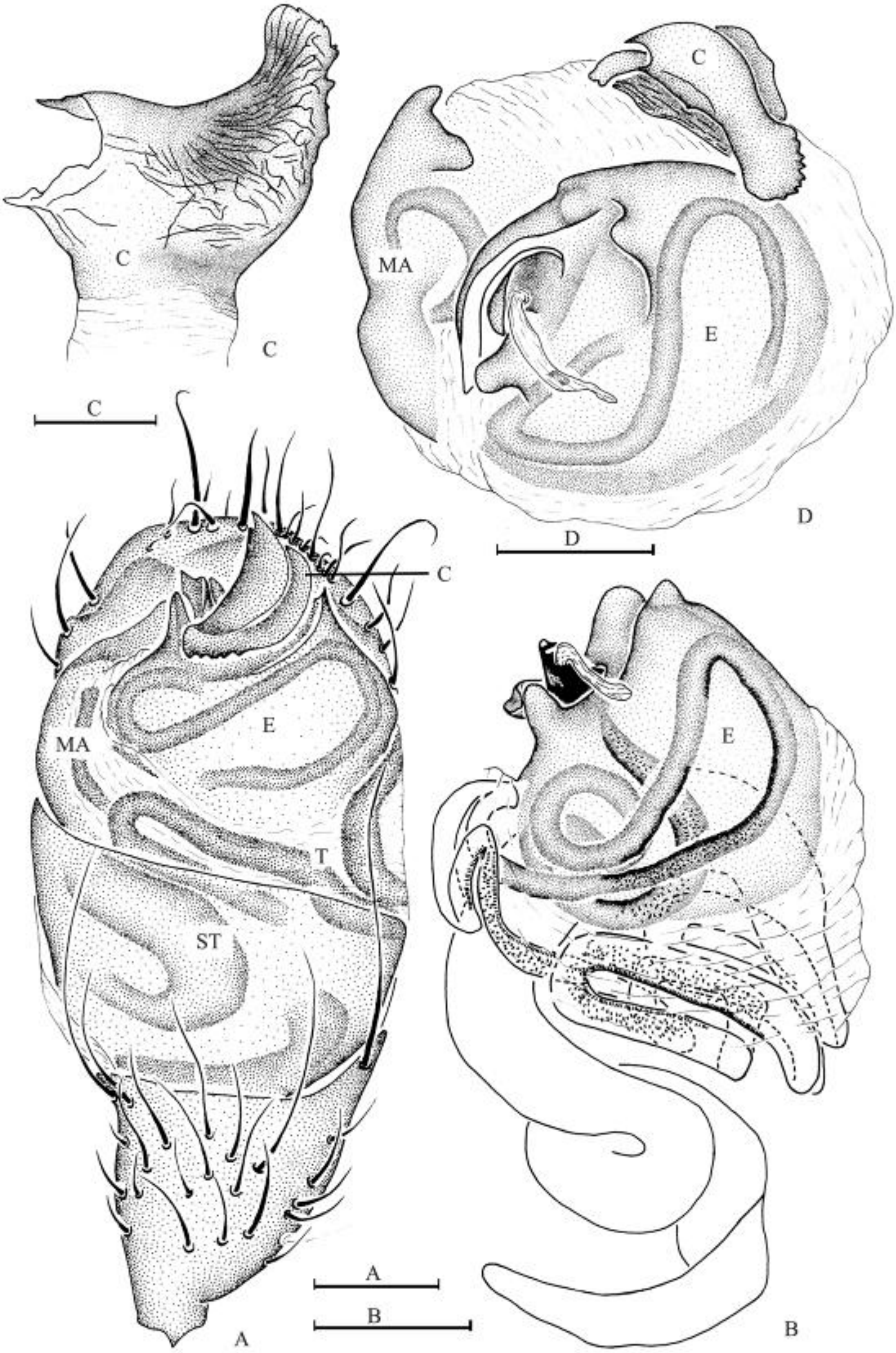

Fig. 59. *Phycosoma ligulaceum* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view; C. Conductor, ventral view; D. Pedipalpus (cymbium removed), apical view. Scale bars = 0.10mm.

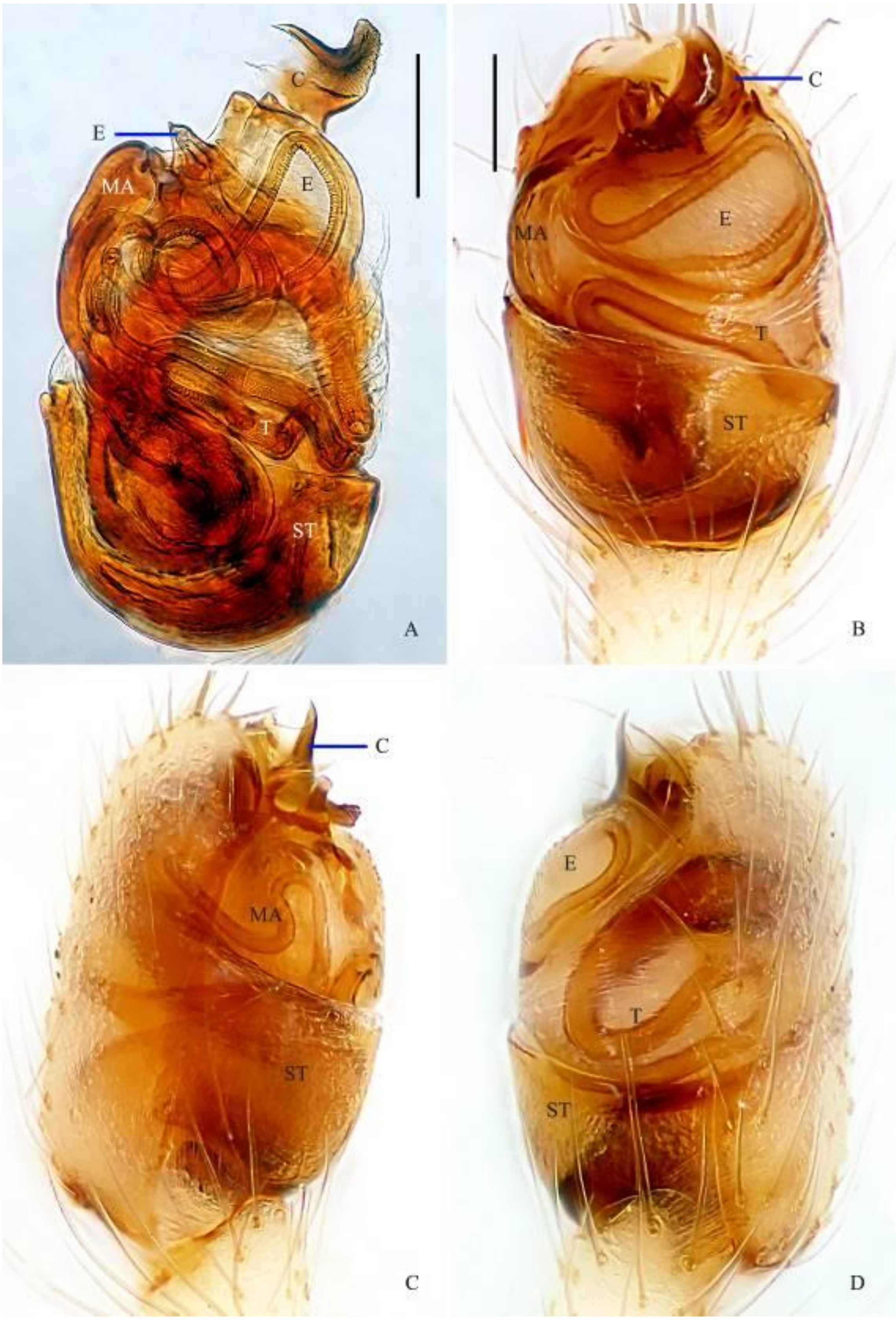

Fig. 60. *Phycosoma ligulaceum* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

AME-ALE 0.04, PME-PME 0.05, PME-PLE 0.08. Clypeus height about 3.80 times AME diameter, pale, with large black spot. Chelicerae: yellow, with dark spots, without tooth; fangs long and slender. Endites: 0.19 long, 0.11 wide, yellow with brown pro-edges. Labium fused with sternum, 0.05 long, 0.16 wide, without seta, yellow. Leg measurements: I 2.69 (0.80, 0.30, 0.64, 0.63, 0.32); II 2.49 (0.73, 0.28, 0.54, 0.56, 0.38); III 2.27 (0.70, 0.28, 0.45, 0.50, 0.34); IV 2.80 (0.88, 0.14, 0.70, 0.68, 0.40). Leg I pale yellow, femur, patella and tibia with black spots; femur-tarsus with many spines, tibia and patella with strong spine. Legs II–IV similar to leg I, femur IV with black ring. Pedipalpus (Figs 58A–B, 59A–D, 60A–D): tibia with 2 trichobothria; cymbium yellow, with process in prolateral view; paracymbium hooked; subtegulum broader than tegulum; median apophysis smooth, without processes; tegulum narrow, conjoined with median apophysis and embolus; embolus short, with two small, one long protrusions, tip with long membranous outgrowth; conductor short, distinct, with sawteeth.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

Phycosoma mustelinum **(Simon, 1889)**

Euryopis mustelina Simon, 1889: 251.
Dipoena mustelina Zhu, 1992: 109, figs 5–6; Zhu, 1998: 240, figs 157A–D; Song *et al*., 1999: 112, figs 55E–F, M.
Phycosoma mustelinum Yoshida, 2009b: 391, figs 12, 341–342.

Material examined. China, Yunnan, 3♂, 4♀, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°57.809'N, 101°12.173'E), 4 August 2007, Guo Zheng leg.; 1♂, 2♀, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°53.823'N, 101°17.072'E), 1–15 March 2007, Guo Zheng leg.; 2♂, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°53.823'N, 101°17.072'E), 1–15 January 2007, Guo Zheng leg.

Distribution. China (Jilin, Liaoning, Yunnan); Japan, Korea, Krakatau, Russia.

Phycosoma nigromaculatum **(Yoshida, 1987)**

Pholcomma nigromaculatum Yoshida, 1987: 29, figs 1–5.
Dipoena nigromaculata Zhu, 1998: 227, figs 147A–E; Song *et al*., 1999: 112, figs 55G–H, N.
Phycosoma nigromaculatum Yoshida, 2009b: 391, figs 345–347.

Material examined. China, Yunnan, 1♂, 1♀, Xishuangbanna, Menglun, rubber plantation (about 20 years) (21°54.463'N, 101°15.978'E), 21 July 2007, Guo Zheng leg.; 1♂, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°53.823'N, 101°17.072'E), 1–17 February 2007, Guo Zheng leg.

Distribution. China (Taiwan, Yunnan); Japan.

3.23 Genus *Platnickina* Koçak & Kemal, 2008

Diagnosis. The genus differ from other genera by metatarsus III with trichobothrium; chelicerae without tooth; male pedipalpus small, with long conductor and embolus; epigynum strongly sclerotized, with large openings (Wunderlich, 2008).

Remarks. *Platnickina* Koçak & Kemal, 2008 is replacement name for *Keijia* Yoshida, 2001.

Platnickina fritilla **sp. nov.** (Figs 61–64)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.390'N, 101°16.811'E), 10 August 2007, Guo Zheng leg.

Paratypes: 5♂, 5♀, same data as holotype.

Etymology. The specific name derives from the Latin adjective *fritillus* and means spotted, in reference to the opisthosoma with many dark and white spots.

Diagnosis. The new species is similar to *P. qionghaiensis*, but can be distinguished from the latter by the cymbium with strong spines; tegular apophysis with many apophyses; embolus base broader than in the latter species; copulatory ducts short, without coil.

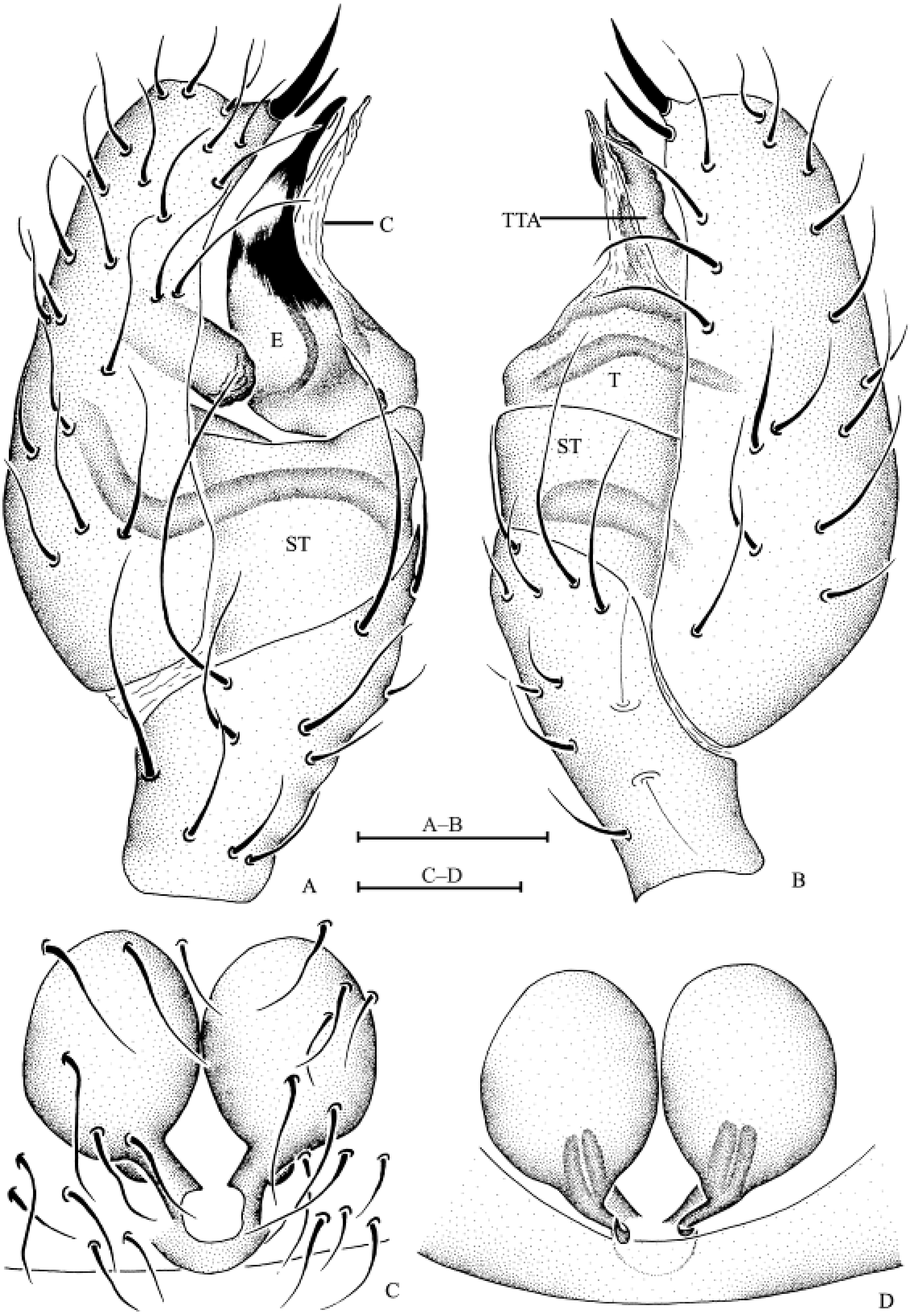

Fig. 61. *Platnickina fritilla* **sp. nov.**, holotype male and paratype female. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view; C. Epigynum (vulva), ventral view; D. Epigynum (vulva), dorsal view. Scale bars = 0.10 mm.

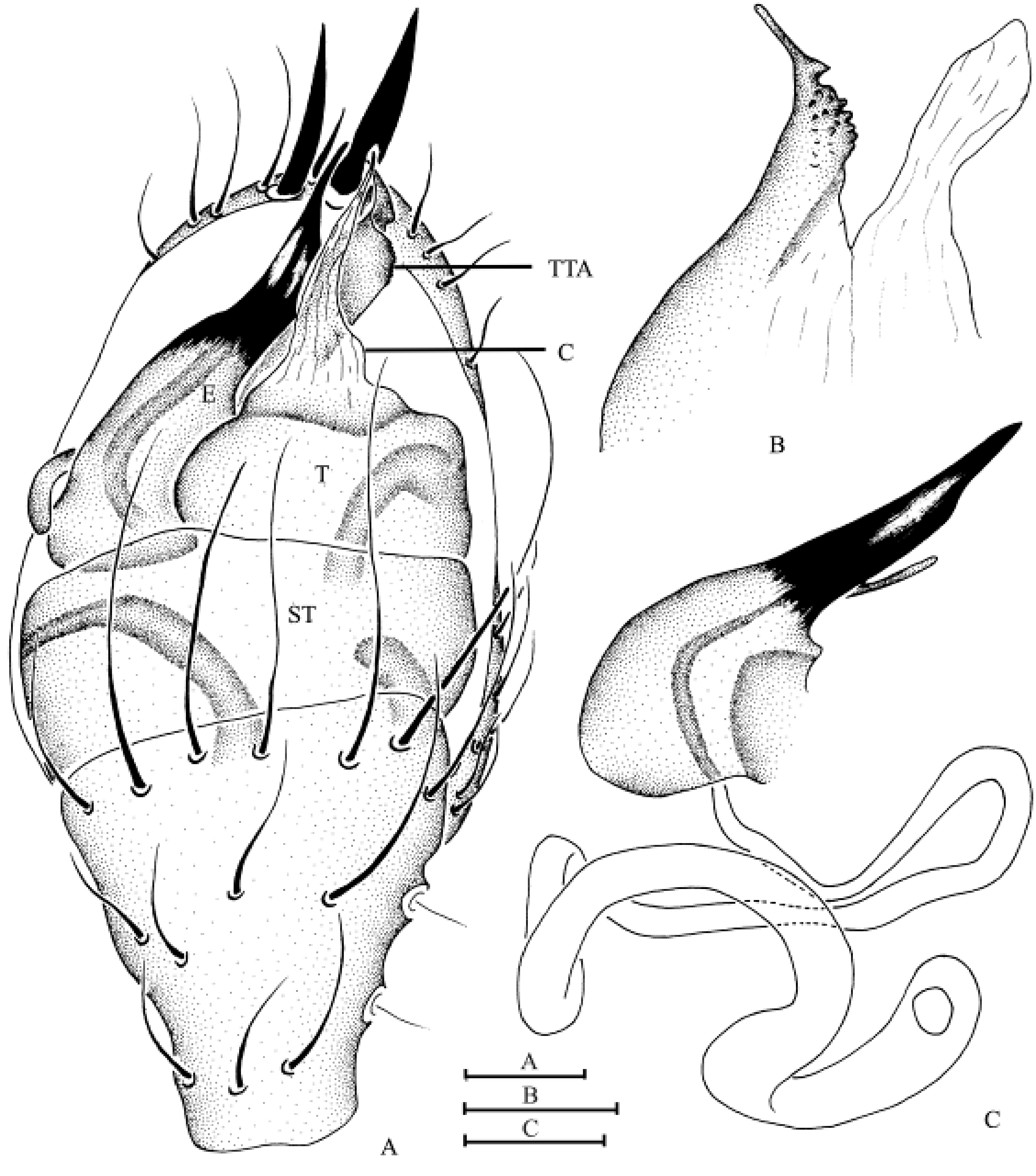

Fig. 62. *Platnickina fritilla* **sp. nov.** holotype male. A. Pedipalpus, ventral view; B. Conductor, ventral view; C. Embolus, ventral view. Scale bars = 0.05mm.

Male (measurements of holotype). Total length 1.78. Prosoma 0.88 long, 0.69 wide, flat, yellow, with black stripes and edge. Sternum 0.43 long, 0.46 wide, yellow with black stripes. Opisthosoma 1.00 long, 0.70 wide, pale, with black, white spots, without colulus. Eye measurements: AME 0.09, ALE 0.08, PME 0.08, PLE 0.08, AME-AME 0.08, AME-ALE 0.03, PME-PME 0.06, PME-PLE 0.06. Clypeus height about 1.80 times AME diameter, yellow, with black spot, setae. Chelicerae: yellow, with 1 posterior tooth; fangs long and slender. Endites: 0.26 long, 0.13 wide, yellow to grey, with brown pro-edges. Labium fused with sternum, 0.06 long, 0.17 wide, with 6 setae, yellow with black stripes. Leg measurements: I 7.51 (2.63, 0.33, 2.50, 1.55, 0.50); II 4.91 (1.75, 0.28, 1.43, 1.00, 0.45); III 2.80 (0.95, 0.25, 0.60, 0.60, 0.40); IV 3.52 (1.13, 0.25, 0.88, 0.88, 0.38). Leg I coxa yellow, without spot; femur-metatarsus yellow, with black spots; tarsus yellow, without spot; femur with row of spines; patella without spine; tibia with row of spines; metatarsus and tarsus

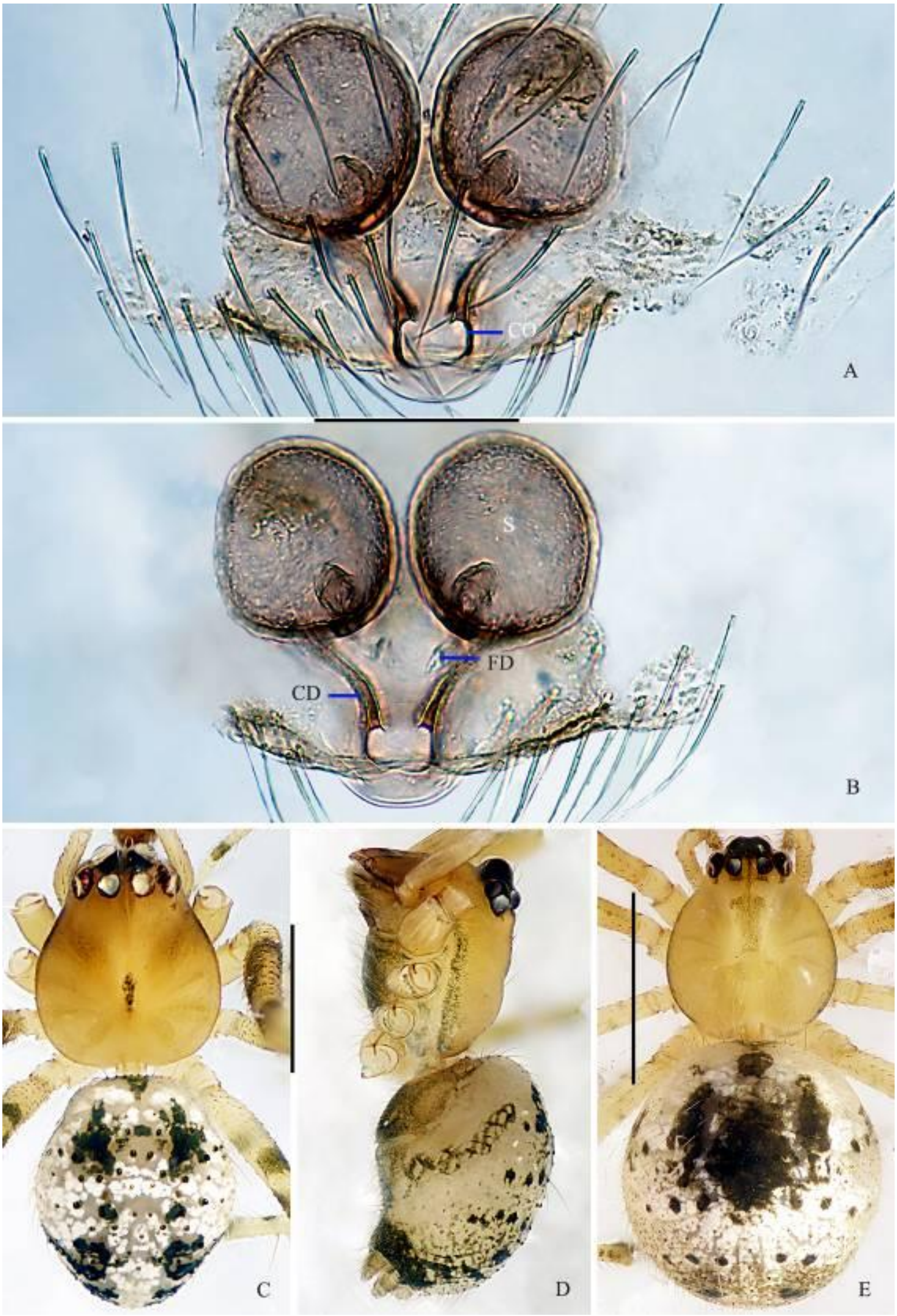

Fig. 63. *Platnickina fritilla* **sp. nov.**, holotype male and paratype female. A. Epigynum (vulva), ventral view; B. Epigynum (vulva), dorsal view; C. Male habitus, dorsal view; D. Male habitus, lateral view; E. Female habitus, dorsal view. Scale bars: A–B= 0.10 mm, C–E= 1.00 mm.

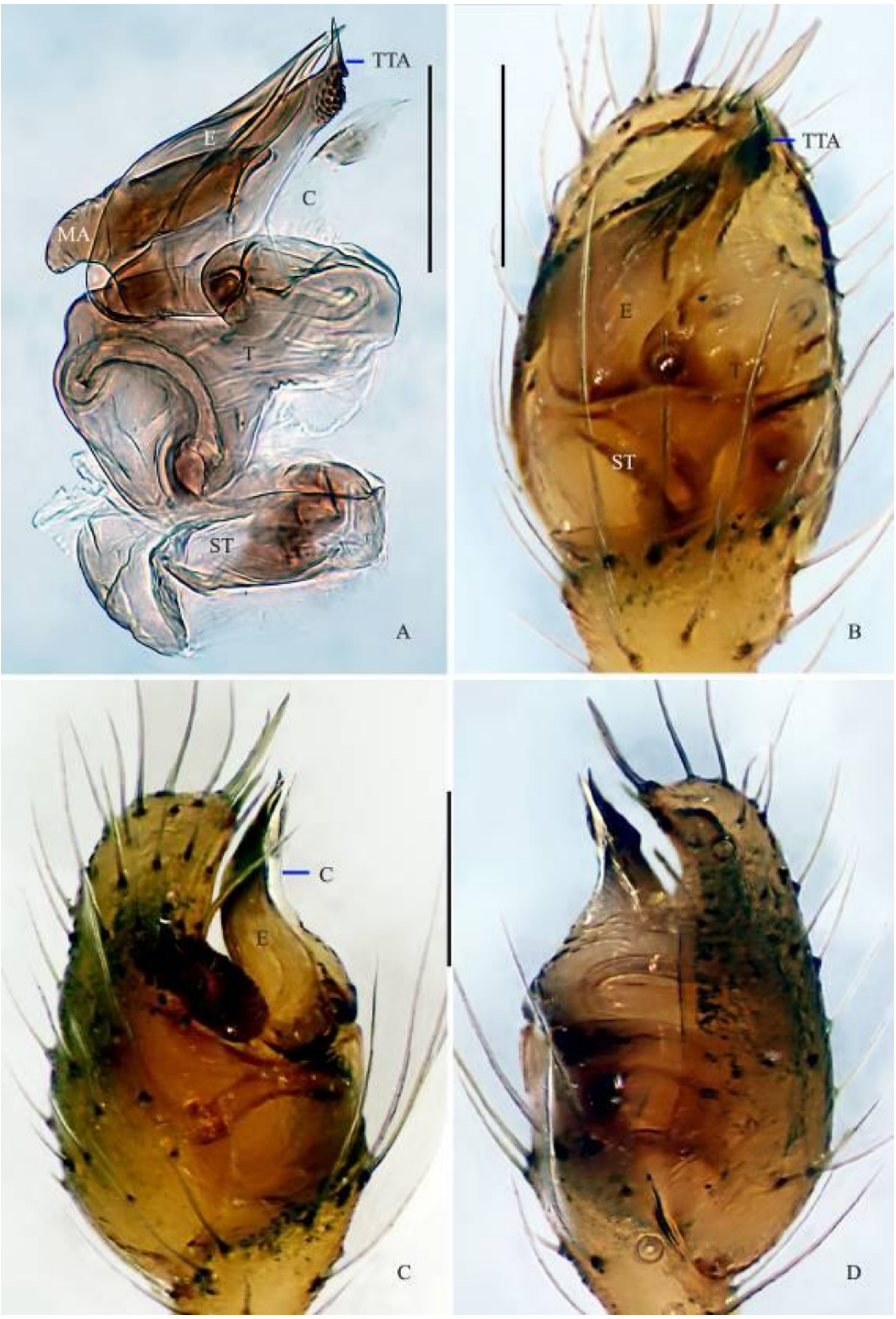

Fig. 64. *Platnickina fritilla* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

without spines. Legs II–IV similar to leg I. Pedipalpus (Figs 61A–B, 62A–C, 64A–D): tibia yellow, with 2 trichobothria; cymbium yellow, with 2 strong spines; paracymbium hooded; subtegulum broad; tegulum confined; median apophysis crimpled, without protrusion; embolus short, triangular, with slender apophysis; conductor membranous; tegular apophysis long, with tiny apophyses.

Variation. Male paratypes. Total length 1.63–2.00; prosoma 0.75–0.80 long, 0.63–0.68 wide; sternum 0.43–0.44 long, 0.43–0.44 wide; opisthosoma 0.94–1.08 long, 0.63–0.93 wide.

Female (measurements of paratypes). Total length 2.20–2.80. Prosoma 0.81–0.88 long, 0.78–0.88 wide, flat, yellow, with black stripes. Sternum 0.44–0.50 long, 0.44–0.50 wide, grey. Opisthosoma 1.19–1.56 long, 0.83–1.06 wide, pale, with black, white spots. Legs yellow, similar to male. Epigynum (Figs 61C–D, 63A–B): epigynum flat; copulatory openings distinguishable; spermathecae spherical; copulatory ducts short, from bottom of spermathecae, opening to anterior margin of atrium; fertilization ducts short, curved, from posterior spermathecae.

Distribution. Only known from type locality (Yunnan).

Platnickina mneon **(Böesenberg & Strand, 1906)**

Theridion mneon Bösenberg & Strand, 1906: 142, pl. 12, fig. 286.
Theridion adamsoni Zhu, 1998: 162, figs 101A–E; Song *et al*., 1999: 137, figs 71G–H, M–N.
Keijia mneon Yoshida, 2001a: 172, figs 8, 53–55.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.390'N, 101°16.811'E), 10 August 2007, Guo Zheng leg.

Distribution. China (Yuannan); Pantropical.

Platnickina sterninotata **(Böesenberg & Strand, 1906)**

Theridion sterninotatum Bösenberg & Strand, 1906: 143, figs 200, 289; Hu, 1984: 172, fig. 179.4; Chen & Zhang, 1991: 155, figs 152.1–3; Zhu, 1998: 156, figs 96A–F; Song *et al*., 1999: 142, figs 80C–D, K–L.
Keijia sterninotata Yoshida, 2001a: 170, figs 7, 50–52.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun, rubber-tea plantation (about 20 years) (21°54.463'N, 101°15.978'E), 15 February–1 March 2007, Guo Zheng leg.; 1♂, Menglun, rubber plantation (about 20 years) (21°54.463'N, 101°15.978'E), 21 July 2007, Guo Zheng leg.

Distribution. China (Hubei, Liaoning, Shaanxi, Yunnan, Zhejiang); Japan, Korea, Russia.

3.24 Genus *Rhomphaea* L. Koch, 1872

Rhomphaea labiata **(Zhu & Song, 1991)**

Argyrodes labiatus Zhu & Song, 1991: 137, figs 9A–G; Song *et al*., 1993: 855, figs 6A–G; Zhu, 1998: 213, figs 139A–G; Song *et al*., 1999: 100, figs 46E–F, N.
Rhomphaea labiata Yoshida, 2001b: 187, figs 10–13, 15, 18.

Material examined. China, Yunnan, 1♂, 1♀, Xishuangbanna, Menglun Nature Reserve, primary tropical seasonal rainforest (21°54.725'N, 101°13.261'E), 8 August 2007, Guo Zheng leg.

Distribution. China (Guangxi, Guizhou, Hunan); Japan, Laos.

Rhomphaea sagana **(Dönitz & Strand, 1906)**

Ariamnes saganus Dönitz & Strand, in Bösenberg & Strand, 1906: 378, pl. 5, fig. 46; Zhu, 1998: 212, figs 138A–D; Song *et al*., 1999: 100, figs 47G–H, O.
Rhomphaea sagana Yoshida, 2001b: 185, figs 1–5.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun, rubber plantation (about 20 years) (21°54.684'N, 101°16.319'E), 5–12 February 2007, Guo Zheng leg.

Distribution. China (Gansu, Jilin, Yunnan); Azerbaijan to Japan, Philippines, Russia.

Rhomphaea sinica (Zhu & Song, 1991)

Argyrodes sinicus Zhu & Song, 1991: 142, figs 15A–F; Zhu, 1998: 216, figs 141A–F; Song *et al*., 1999: 103, figs 47I–J, P.
Rhomphaea sinica Agnarsson, 2004: 480.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°54.772'N, 101°16.043'E), 1–15 February 2007, Guo Zheng leg.

Distribution. China (Hunan, Yunnan, Zhejiang).

Rhomphaea tanikawai Yoshida, 2001

Rhomphaea tanikawai Yoshida, 2001b: 187, figs 16, 19–24.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.718'N, 101°16.940'E), 27 July 2007, Guo Zheng leg.

Distribution. China (Yunnan); Japan.

3.25 Genus *Steatoda* Sundevall, 1833

Diagnosis. The genus differ from other genera by the large body; male pedipalpus with strongly sclerotized internal paracymbium; embolus long and sickle or screw-shaped (Wunderlich, 2008).

Steatoda hui Zhu, 1998

Steatoda hui Zhu, 1998: 331, figs 221A–E; Song *et al*., 1999: 132, figs 68G–H, O–P.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun, rubber plantation (about 20 years) (21°54.463'N, 101°15.978'E), 21 July 2007, Guo Zheng leg.

Distribution. China (Tibet, Yunnan).

Steatoda spina sp. nov. (Figs 65–67)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.984'N, 101°16.982'E), 19–25 September 2006, Guo Zheng leg.

Etymology. The specific name derives from the Latin noun *spina* and means spine, in reference to the embolus with a thorny apophysis.

Diagnosis. The new species is somewhat similar to *S. triangulosa*, but can be distinguished by the embolus having a basal apophysis and by most of the conductor being sclerotized.

Male. Total length 2.40. Prosoma 1.00 long, 0.90 wide, fore part high, brown, with black stripes. Sternum 0.60 long, 0.60 wide, brown to grey, with setae. Opisthosoma 1.50 long, 1.25 wide, pale, with 3 black stripes, tiny white spots in dorsal view, without colulus. Eye measurements: AME 0.07, ALE 0.07, PME 0.08, PLE 0.08, AME-AME 0.06, AME-ALE 0.03, PME-PME 0.08, PME-PLE 0.03. Clypeus height about 4.91 times AME diameter, brown, with black stripes. Chelicerae: brown with black spots, 1 large anterior tooth, 1 tiny posterior tooth. Endites: 0.38 long, 0.16 wide, brown, distal pale, with brown pro-edges. Labium fused with sternum, 0.11 long, 0.21 wide, with 6 setae, brown to grey. Leg measurements: I 6.08 (1.65, 0.38, 1.70, 1.55, 0.80); II 4.15 (1.25, 0.35, 1.00, 0.85, 0.70); III 3.31 (1.00, 0.28, 0.78, 0.65, 0.60); IV 4.11 (1.25, 0.28, 1.10, 0.85, 0.63). Leg I yellow, without spot; femur with 2 rows of spines; patella with 2 spines; tibia with row of spines. Legs II–IV similar to leg I. Pedipalpus (Figs 65A–B, 66A–B, 67A–D): tibia brown, with black spot, 2 trichobothria; cymbium brown, with black spot; paracymbium hooked; subtegulum confined; tegulum broad; median apophysis smooth, without protrusion; embolus long, with basal apophysis; conductor highly sclerotized, terminally membranous; tegular apophysis shaped like pistol.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

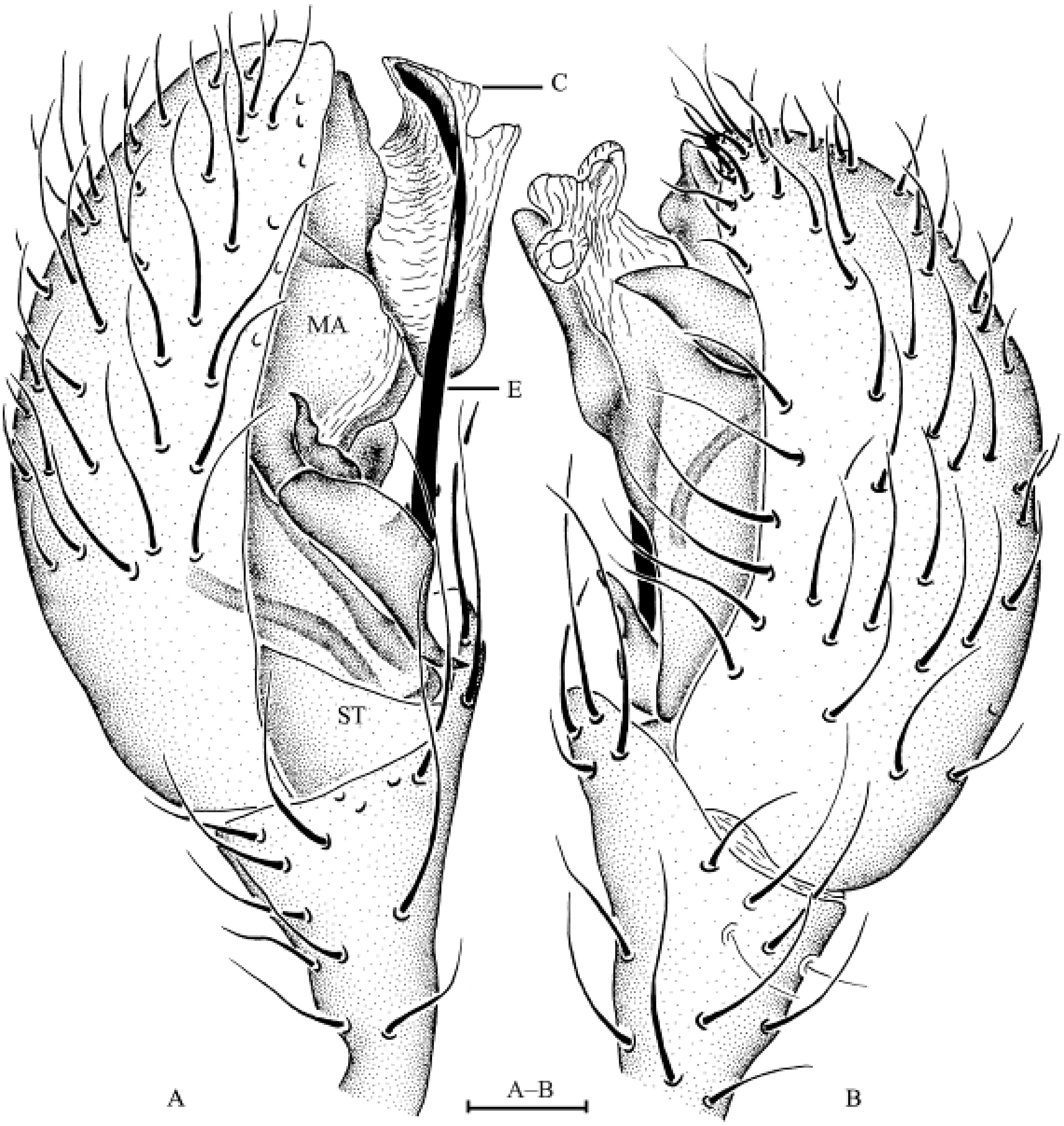

Fig. 65. *Steatoda spina* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.10 mm.

Steatoda terebrui **sp. nov.** (Figs 68–70)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21 °54.767'N, 101 °11.431'E), 19–26 May 2006, Guo Zheng leg.

Etymology. The specific name derives from the Latin noun *terebrum* and means auger, in reference to the embolus screwed.

Diagnosis. The new species differs from other species of the genus by having the embolus screwed and the conductor encircling the embolus.

Male. Total length 2.75. Prosoma 1.10 long, 1.18 wide, flat, yellow, with black stripes, 6 long setae. Sternum 0.65 long, 0.65 wide, yellow, with dark spots and long setae. Opisthosoma 1.50 long, 0.98 wide, pale, with black, white spots, without colulus. Eye measurements: AME 0.11, ALE 0.11, PME 0.11, PLE 0.11, AME-AME 0.09, AME-ALE 0.05,

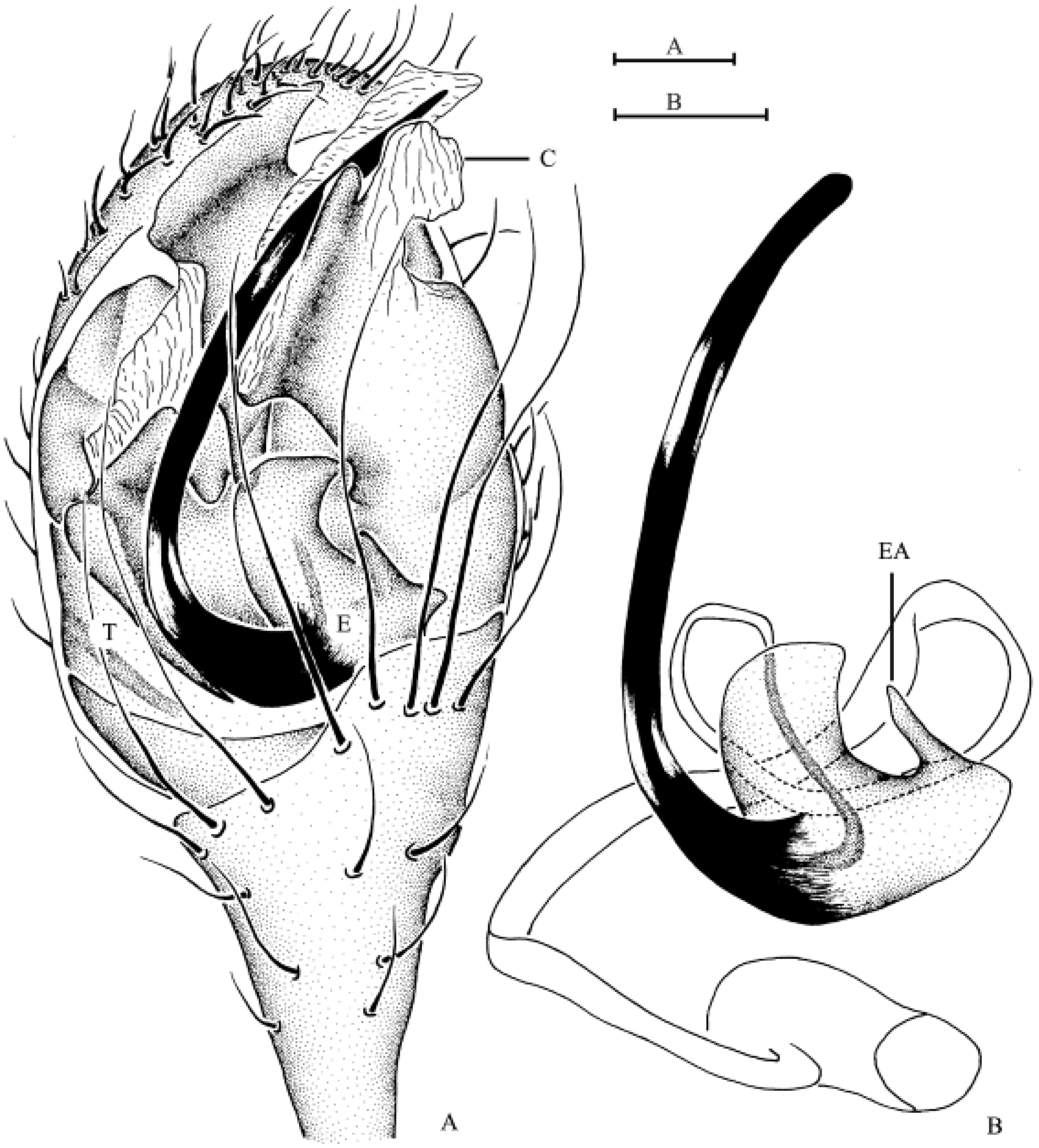

Fig. 66. *Steatoda spina* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view. Scale bars = 0.10mm.

PME-PME 0.11, PME-PLE 0.11. Clypeus height about 2.78 times AME diameter, yellow. Chelicerae: yellow, with 2 anterior teeth. Endites: 0.50 long, 0.19 wide, yellow, with black spots, brown pro-edges. Labium fused with sternum, 0.13 long, 0.25 wide, with 6 setae, yellow. Leg measurements: I 10.66 (2.80, 0.68, 2.80, 3.25, 1.13); II 6.63 (1.88, 0.60, 1.60, 1.80, 0.75); III 4.69 (1.30, 0.38, 0.78, 1.60, 0.63); IV 5.77 (1.80, 0.38, 1.38, 1.58, 0.63). Leg I coxa yellow, without spot; femur yellow, with black ring; patella yellow, with black spot; tibia yellow, with black ring; metatarsus yellow, with brown spot; tarsus yellow; femur with 2 rows of spines, patella with 4 spines; tibia with many spines, trichobothria; metatarsus and tarsus with many spines. Legs II–IV similar to leg I, femur II–IV yellow, with black spot. Pedipalpus (Figs 68A–B, 69A–B, 70A–D): tibia yellow, with 1 trichobothrium; cymbium yellow, with black spot, crenulated setae; paracymbium hooded; subtegulum triangular; tegulum with ridge; median apophysis smooth, without protrusion; embolus long, strong, screwed; conductor coiled around embolus, terminally membranous, with hooked protrusion.

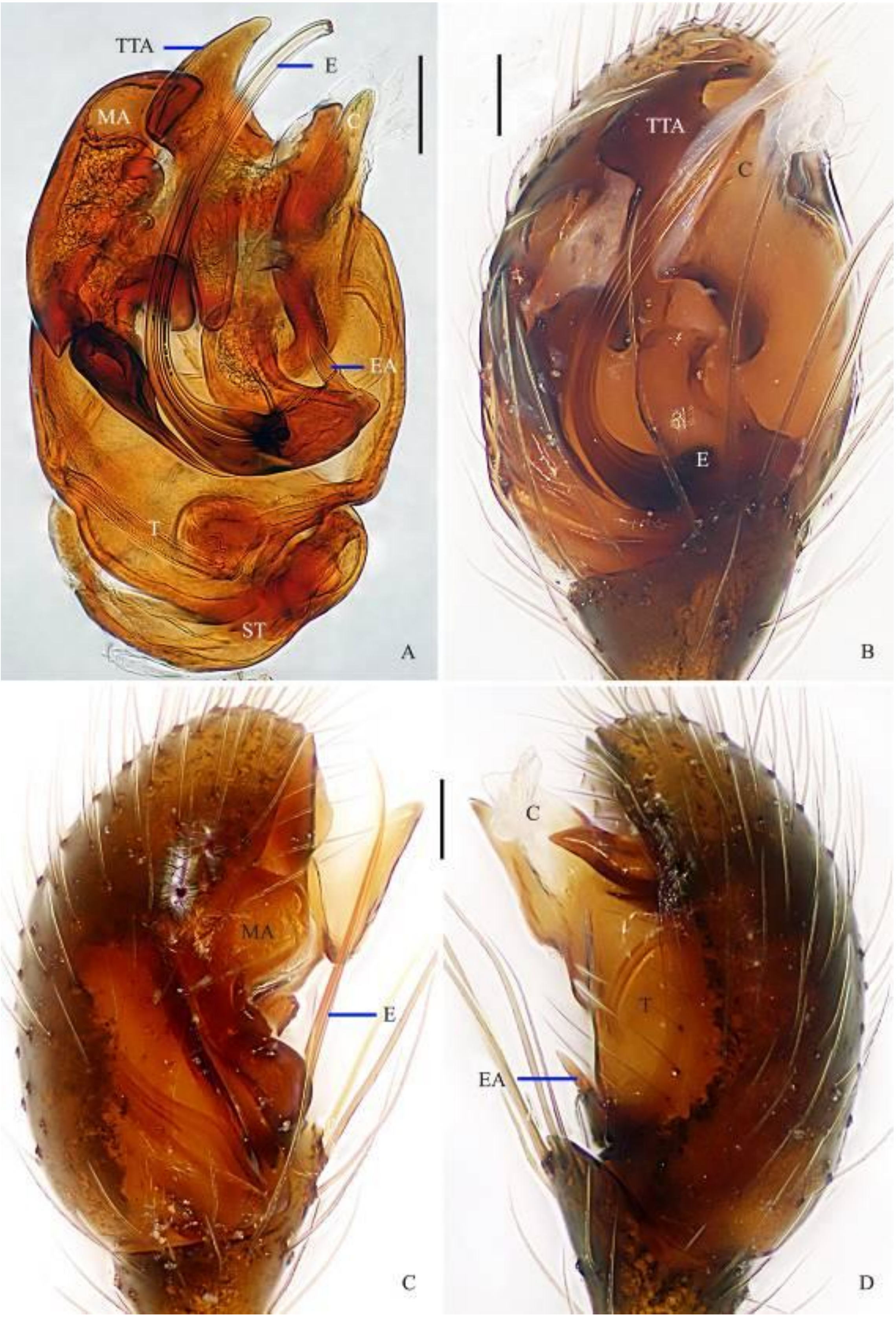

Fig. 67. *Steatoda spina* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

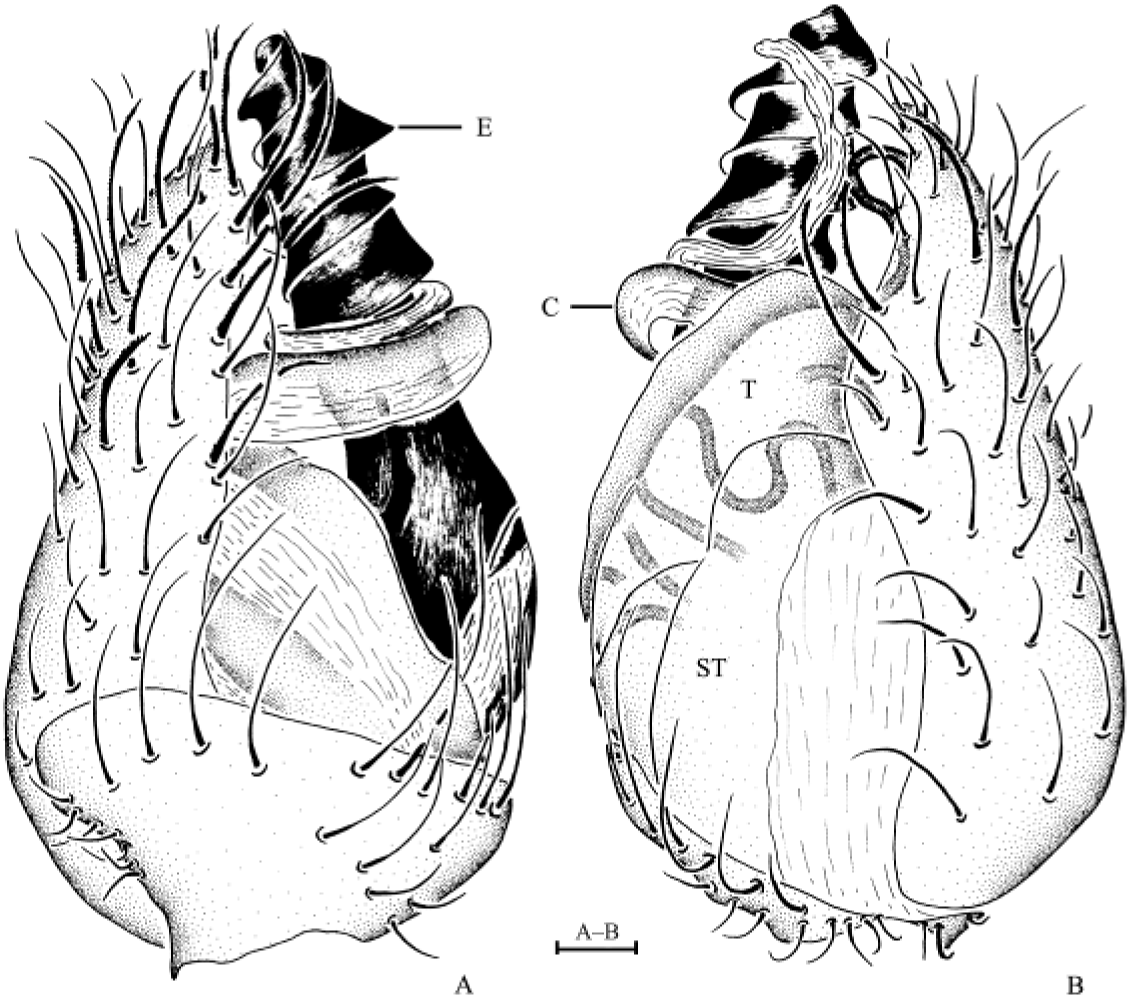

Fig. 68. *Steatoda terebrui* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.10 mm.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

Steatoda uncata Zhang, Chen & Zhu, 2001

Steatoda uncata Zhang *et al*., 2001: 306, figs 2A–C.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°54.767'N, 101°11.431'E), 19–26 May 2007, Guo Zheng leg.

Distribution. China (Guizhou, Yunnan).

3.26 Genus *Stemmops* O. P.-Cambridge, 1894

Stemmops forcipus Zhu, 1998

Stemmops forcipus Zhu, 1998: 255, figs 170A–E; Song *et al*., 1999: 132, figs 70I–L.

Material examined. China, Yunnan, 3♂, 2♀, Xishuangbanna, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°54.200'N, 101°16.923'E), 19–26 March 2007, Guo Zheng leg.; 3♂, Menglun Nature Reserve, secondary tropical

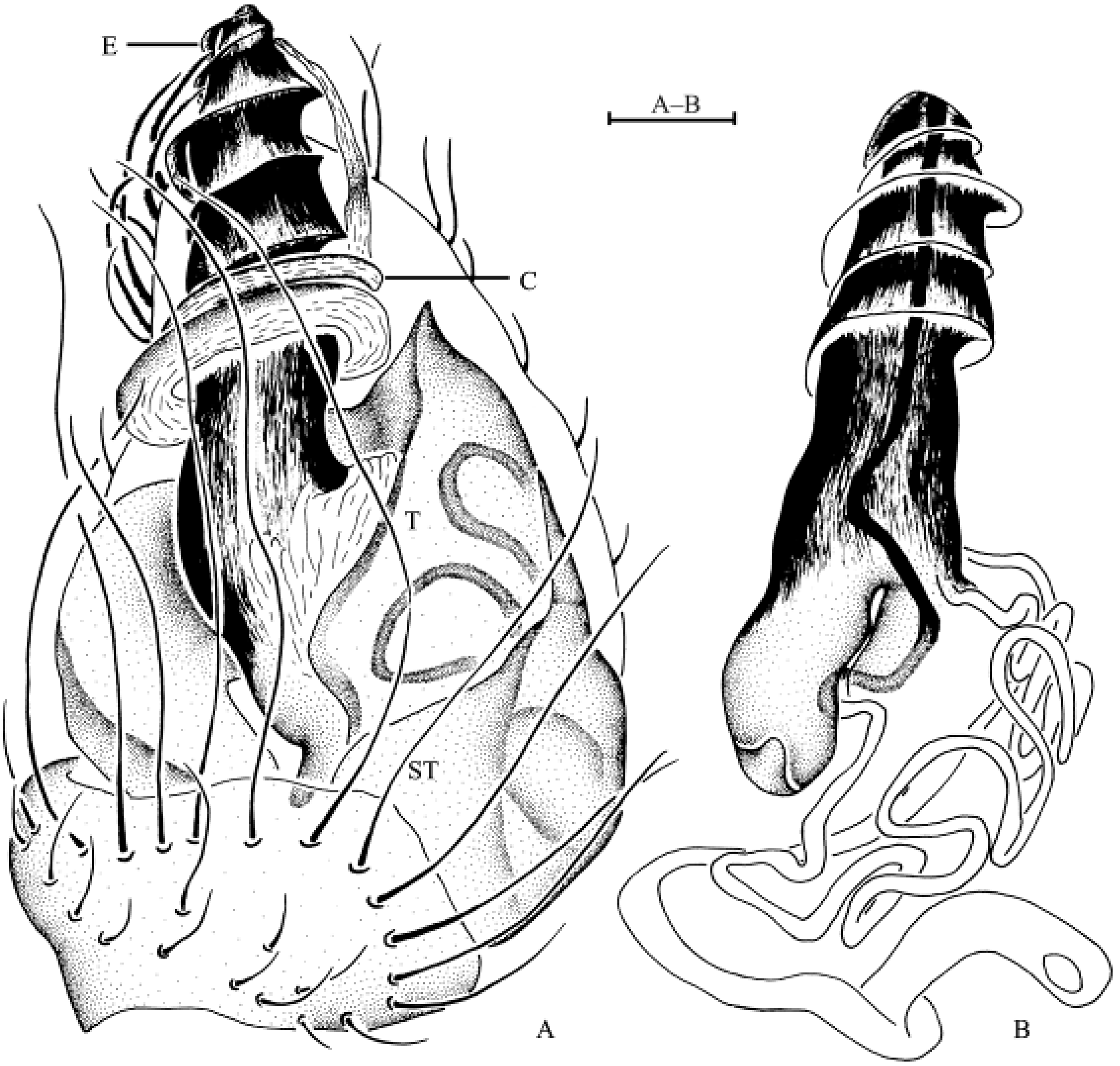

Fig. 69. *Steatoda terebrui* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view. Scale bar = 0.10 mm.

montane evergreen broad-leaved forest (21°54.767'N, 101°11.431'E), 19–26 March 2007, Guo Zheng leg.; 2♂, 2♀, Menglun, rubber plantation (about 20 years) (21°54.684'N, 101°16.319'E), 10–20 June 2007, Guo Zheng leg.; 2♂, 1♀, Menglun Nature Reserve, econdary tropical montane evergreen broad-leaved forest (21°54.767'N, 101°11.431'E), 10–20 June 2007, Guo Zheng leg.

Distribution. China (Hainan, Yunnan); Laos.

Stemmops nigrabdomenus **Zhu, 1998**

Stemmops nigrabdomenus Zhu, 1998: 257, figs 171A–C; Song *et al*., 1999: 132, figs 70M–N.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.984'N, 101°16.982'E), 10–20 June 2007, Guo Zheng leg.; 1♂, Menglun, rubber plantation (about 20 years) (21°54.684'N, 101°16.319'E), 5–12 March 2007, Guo Zheng leg.

Distribution. China (Guangxi, Yunnan); Laos.

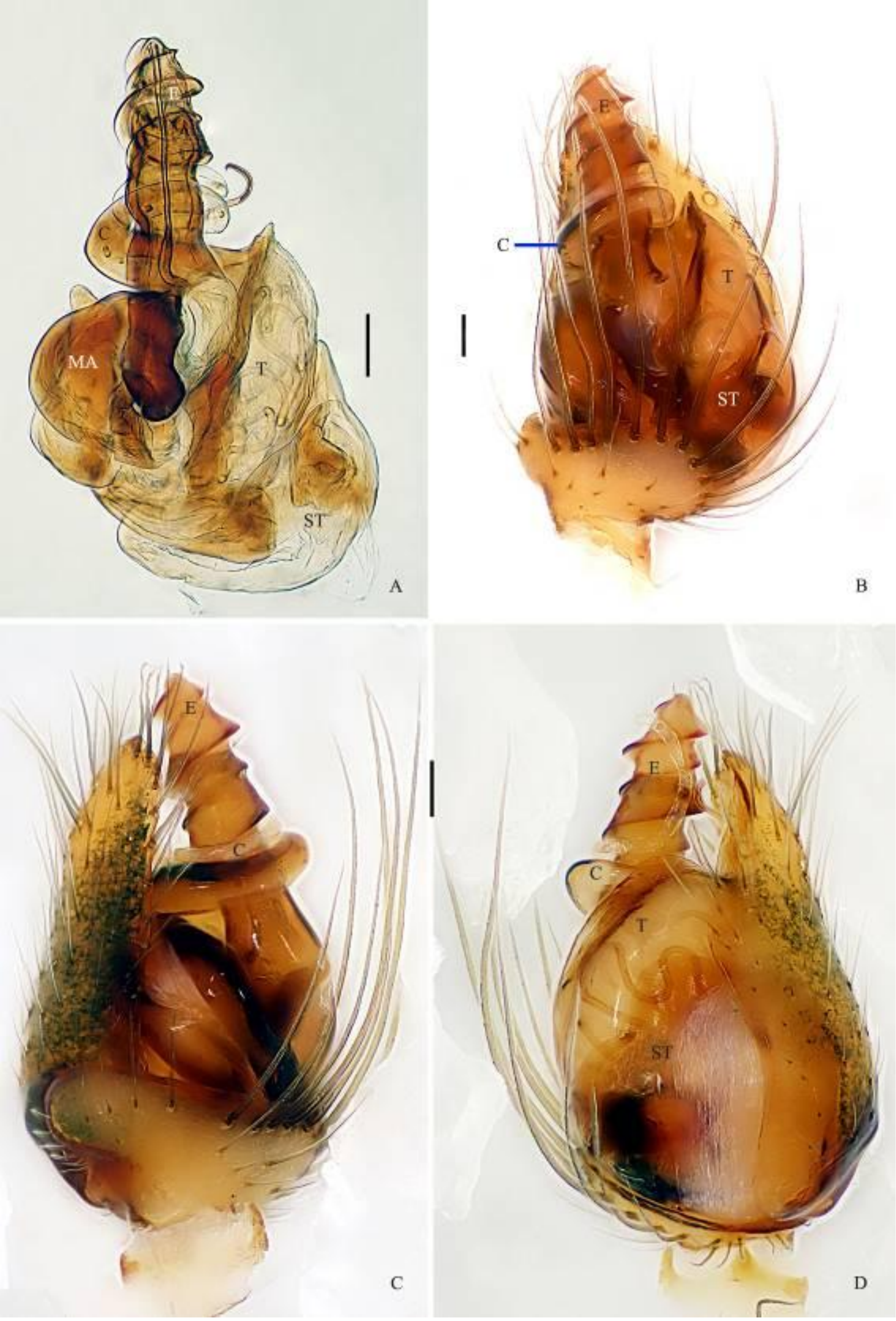

Fig. 70. *Steatoda terebrui* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

Stemmops nipponicus **Yaginuma, 1969**

Stemmops nipponicus Yaginuma, 1969: 14, figs 1–5; Chen & Zhang, 1991: 135, figs 127.1–4; Zhu *et al*., 1991: 176, figs 13–16; Zhu, 1998: 254, figs 169A–D; Song *et al*., 1999: 132, figs 71A–D; Song *et al*., 2001: 111, figs 54A–D.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun Nature Reserve, primary tropical seasonal rainforest (21°57.445'N, 101°12.997'E), 16–31 March 2007, Guo Zheng leg.

Distribution. China (Hebei, Zhejiang, Yunnan); Japan, Korea.

3.27 Genus *Tekellina* Levi, 1957

Diagnosis. Members of this genus are less than 1.3 mm in length and differ from those of other genera by the weakly sclerotized and modified prosoma; chelicerae without teeth; abdomen wider than long; colulus replaced by two setae; pedipalpus with end of median apophysis lying against paracymbial hook near margin of cymbium; cymbium almost circular (Levi & Levi, 1962).

Tekellina helixicis **sp. nov.** (Figs 71–74)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun, tropical evergreen rainforest (21°56.206'N, 101°16.204'E), 1 December 2009, Guo Tang and Zhi-Yuan Yao leg.

Paratypes: 2♂, 3♀, same data as holotype.

Etymology. The specific name derives from the Latin adjective *helixicis* and means spiral, in reference to the copulatory ducts long, wreathe spermathecae.

Diagnosis. The new species is very similar to *T. archboldi*, but can be distinguished by having the conductor straight, with a dentate apophysis; copulatory ducts curled, surrounded spermathecae; spermathecae indistinct. The latter species with a curved conductor, without apophysis; copulatory ducts from bottom of spermathecae, coiled; spermathecae distinct (Levi, 1957b).

Male (measurements of holotype). Total length 0.94. Prosoma 0.41 long, 0.40 wide, flat, pale yellow, without spot. Sternum 0.25 long, 0.25 wide, pale yellow. Opisthosoma 0.53 long, 0.50 wide, pale yellow, with white spots, without colulus. Eye measurements: AME 0.06, ALE 0.06, PME 0.107, PLE 0.07, AME-AME 0.05, AME-ALE 0.02, PME-PME 0.05, PME-PLE 0.03. Clypeus height about 1.92 times AME diameter, pale yellow. Chelicerae: pale yellow, without tooth; fangs long and slender. Endites: 0.13 long, 0.06 wide, pale yellow, with brown pro-edges. Labium fused with sternum, 0.04 long, 0.08 wide, with 3 setae, pale yellow. Leg measurements: I 1.78 (0.56, 0.14, 0.50, 0.36, 0.22); II 1.76 (0.56, 0.16, 0.48, 0.31, 0.25); III 1.27 (0.41, 0.13, 0.27, 0.25, 0.21); IV 1.60 (0.56, 0.13, 0.41, 0.28, 0.22). Leg I pale yellow, without spot; femur with 1 spine, patella with 1 distal spine; tibia with 2 spines; metatarsus with row of spines; tarsus without spine. Legs II–IV similar to leg I. Pedipalpus (Figs 71A–B, 72A–C, 74A–D): tibia pale yellow, with 2 trichobothria; cymbium pale yellow, without spot; paracymbium hooked; subtegulum indistinguishable; tegulum large; median apophysis indistinguishable; embolus long, flagelliform, surrounding tegulum; conductor with trifurcate apophysis; tegular apophysis distinct, tip acute.

Variation. Male paratypes. Total length 0.96–1.06; prosoma 0.41–0.43 long, 0.41–0.44 wide; sternum 0.25–0.26 long, 0.25–0.26 wide; opisthosoma 0.56–0.60 long, 0.63–0.86 wide.

Female (measurements of paratypes). Total length 1.18–1.53. Prosoma 0.41–0.50 long, 0.40–0.41 wide, flat, pale yellow, without spot. Sternum 0.30–0.31 long, 0.30–0.31 wide, pale yellow. Opisthosoma 0.75–0.96 long, 0.78–1.15 wide, pale yellow, with white spots. Legs pale yellow, similar to male. Epigynum (Figs 71C–D, 73A–B): epigynum flat, pale yellow; copulatory openings distinguishable; spermathecae indistinct; copulatory ducts long, curved, surrounding spermathecae, opening to anterior margin of atrium; fertilization ducts short, from bottom of spermathecae.

Distribution. Only known from type locality (Yunnan).

3.28 Genus *Theridion* Walckenaer, 1805

Diagnosis. The genus differ from other genera by cheliceral teeth 0–1/0; male pedipalpus with hooded paracymbium; median apophysis large; embolus large, most often describing at least half a circle and not widely enclosed by the conductor; epigyne usually a single larger pit (Wunderlich, 2008).

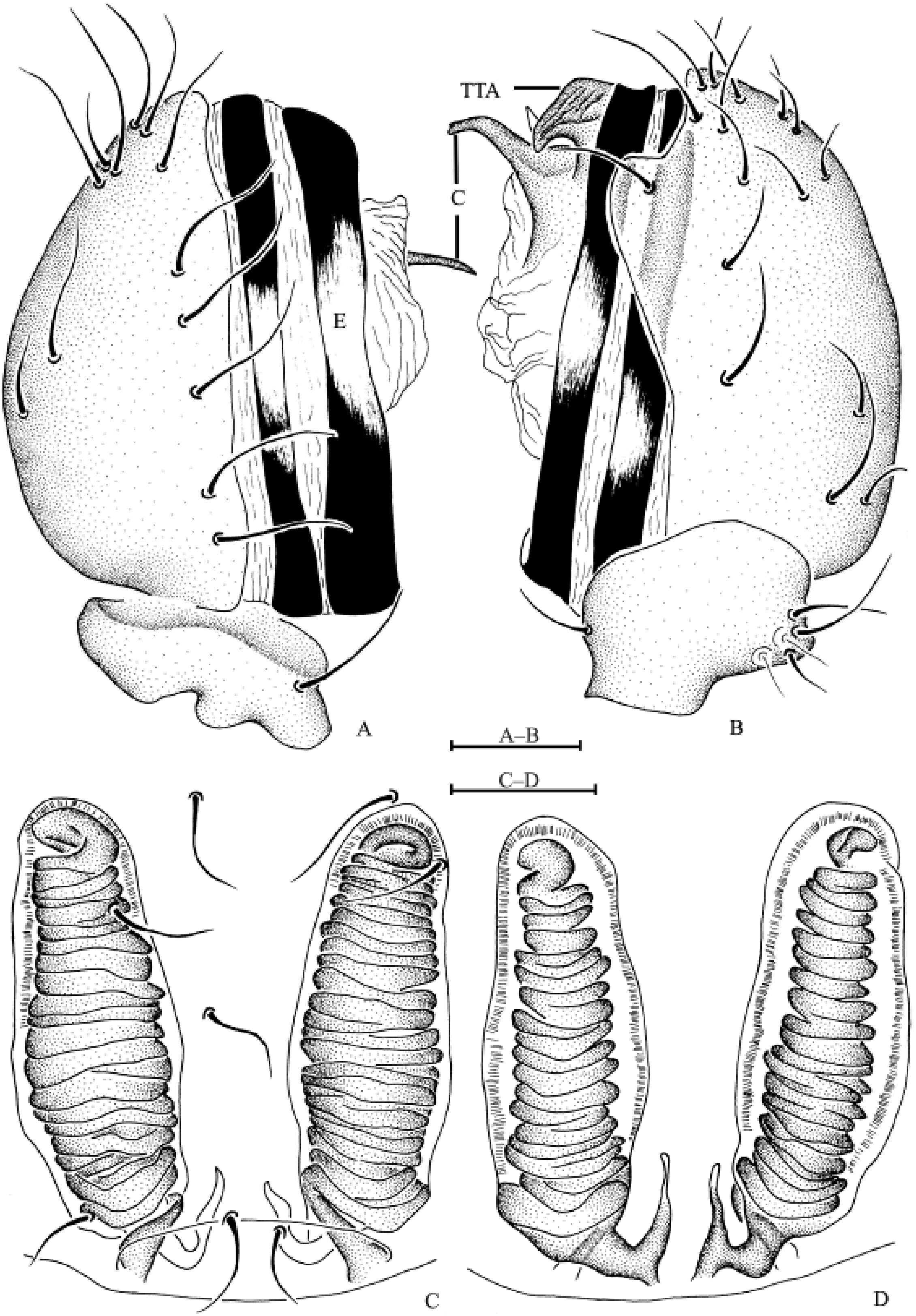

Fig. 71. *Tekellina helixicis* **sp. nov.**, holotype male and paratype female. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view; C. Epigynum (vulva), ventral view; D. Epigynum (vulva), dorsal view. Scale bars = 0.05 mm.

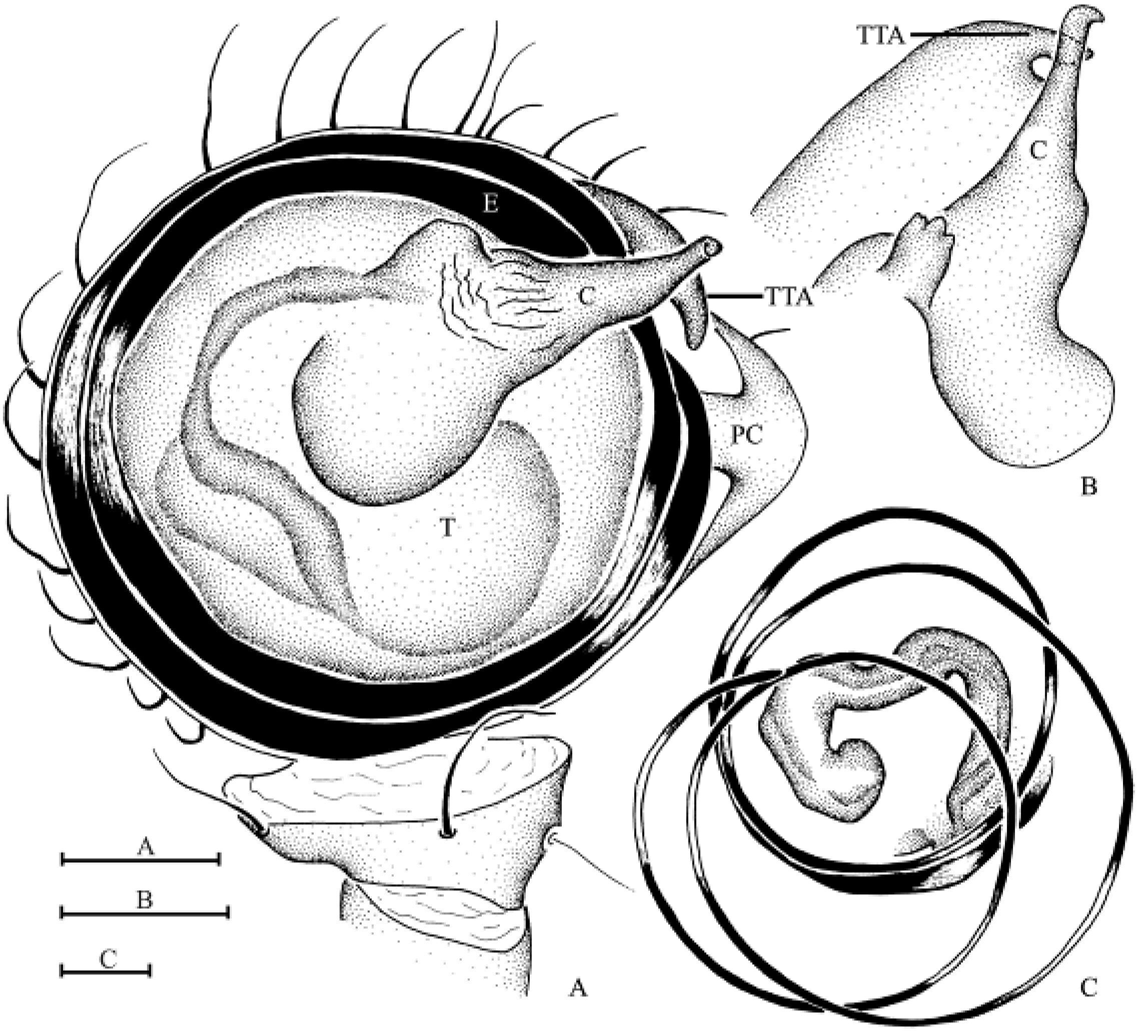

Fig. 72. *Tekellina helixicis* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Conductor and TTA, ventral view; C. Embolus, ventral view. Scale bars = 0.05 mm.

Theridion acanthopodum **sp. nov.** (Figs 75–77)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun, bamboo plantation (21°53.640'N, 101°16.940'E), 3 December 2009, Guo Tang and Zhi-Yuan Yao leg.

Paratypes 2♂, same data as holotype.

Etymology. The specific name derives from the Latin adjective *acanthopodus* and means “of thorny foot”, in reference to the tegulum with a long spined outgrowth.

Diagnosis. The new species is very similar to *T. pyrenaeum*, but can be distinguished by the tegulum with spined outgrowth; the latter species has a long outgrowth on the median apophysis (Knoflach *et al.*, 2009).

Male (measurements of holotype). Total length 1.33. Prosoma 0.58 long, 0.50 wide, flat, yellow, with dark striae, stripes in middle. Sternum 0.35 long, 0.35 wide, pale. Opisthosoma 0.75 long, 0.50 wide, pale, with large black, tiny white spots, without colulus. Eye measurements: AME 0.06, ALE 0.05, PME 0.06, PLE 0.05, AME-AME 0.05, AME-ALE 0.01, PME-PME 0.03, PME-PLE 0.03. Clypeus height about 2.08 times AME diameter, pale. Chelicerae: yellow, without spot, with 2 anterior teeth; fangs long and slender. Endites: 0.23 long, 0.09 wide, yellow to grey, with brown pro-edges. Labium fused with sternum, 0.05 long, 0.16 wide, with 4 setae, yellow. Leg measurements: I 3.17 (0.95, 0.25, 0.81, 0.70, 0.46); II 2.32 (0.73, 0.21, 0.55, 0.54, 0.29); III 1.60 (0.54, 0.14, 0.31, 0.33, 0.28); IV 2.33 (0.75, 0.20, 0.50, 0.50, 0.38).

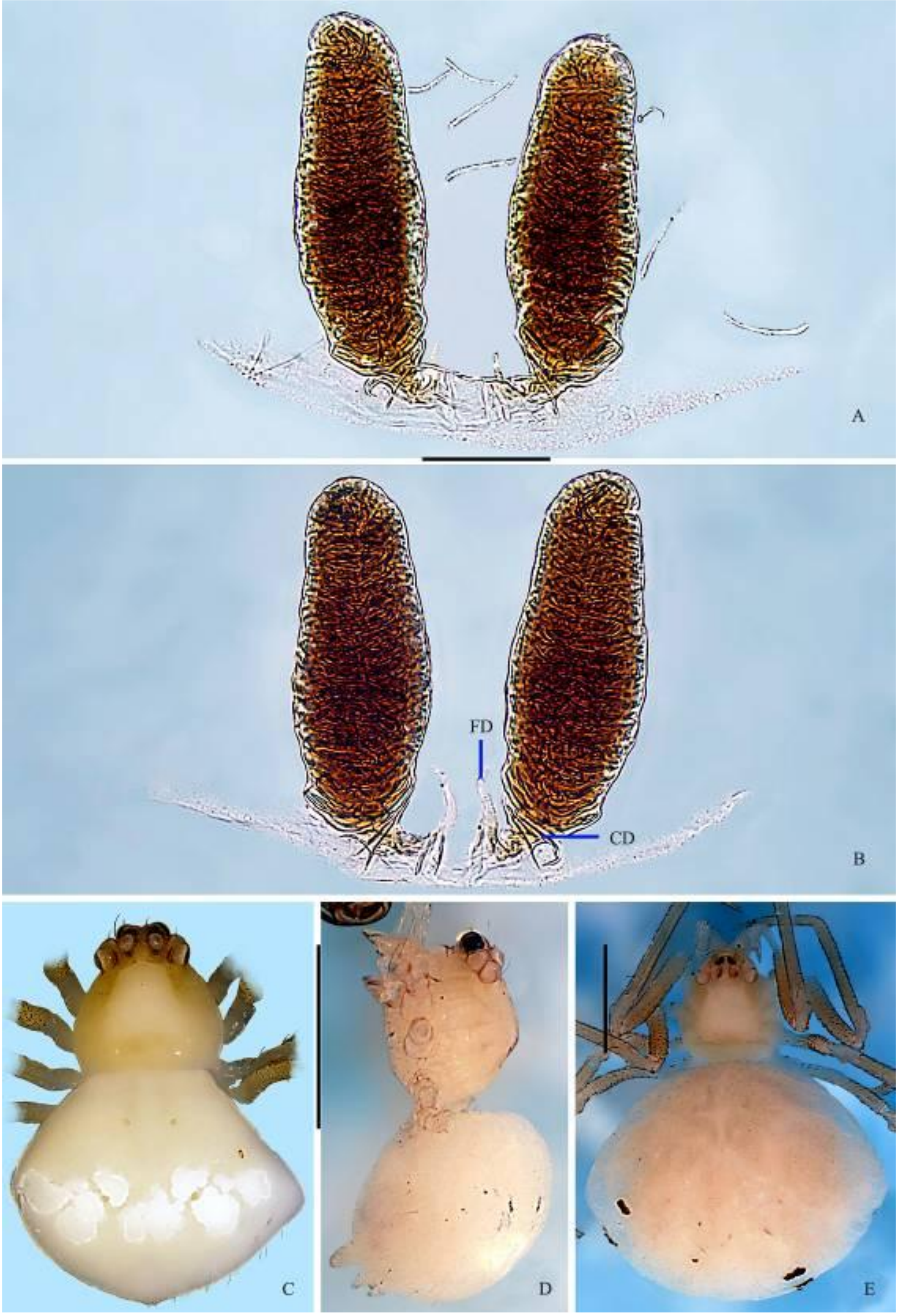

Fig. 73. *Tekellina helixicis* **sp. nov.**, holotype male and paratype female. A. Epigynum (vulva), ventral view; B. Epigynum (vulva), dorsal view; C. Male habitus, dorsal view; D. Male habitus, lateral view; E. Female habitus, dorsal view. Scale bars: A–B = 0.05 mm, C–E = 0.50 mm.

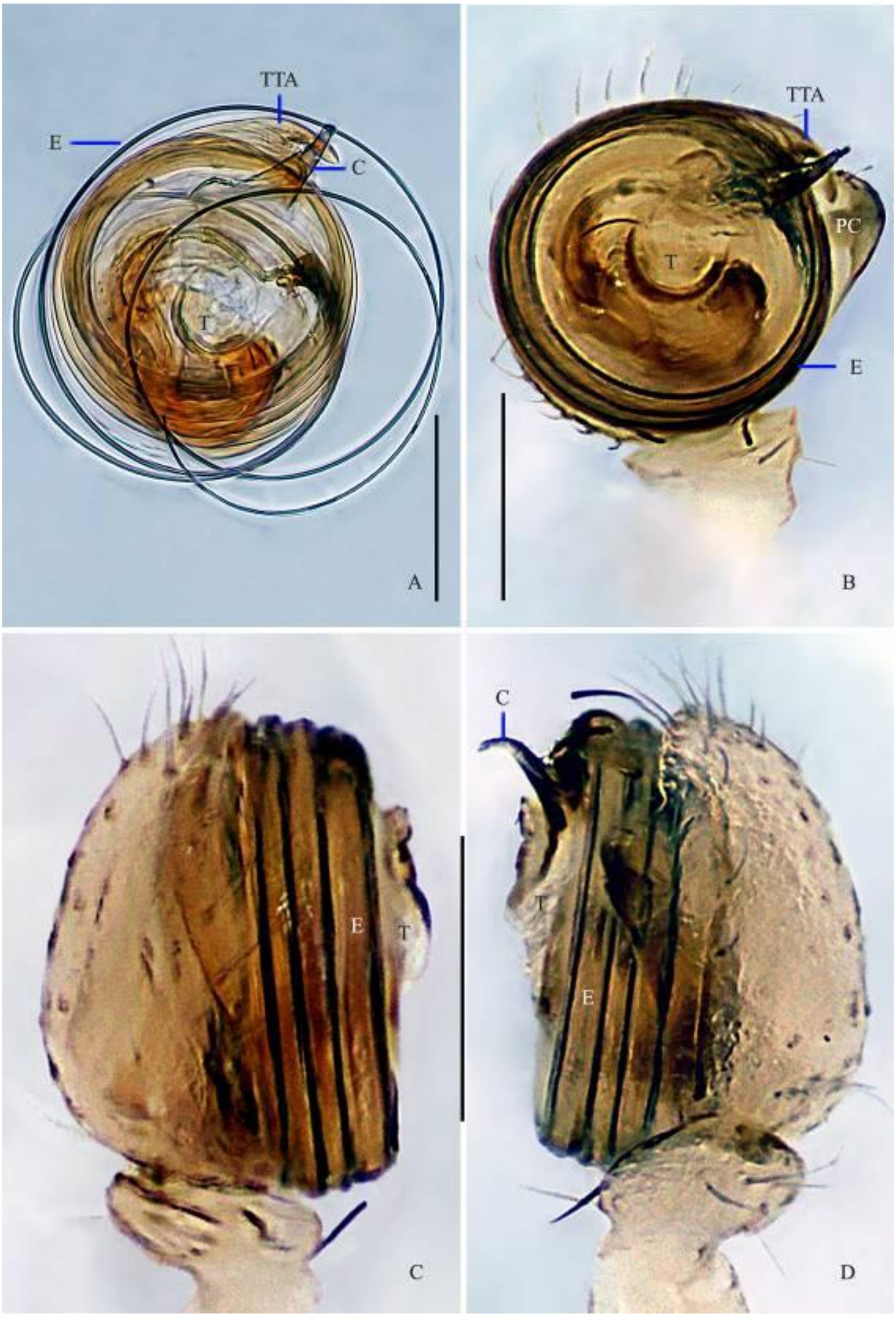

Fig. 74. *Tekellina helixicis* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

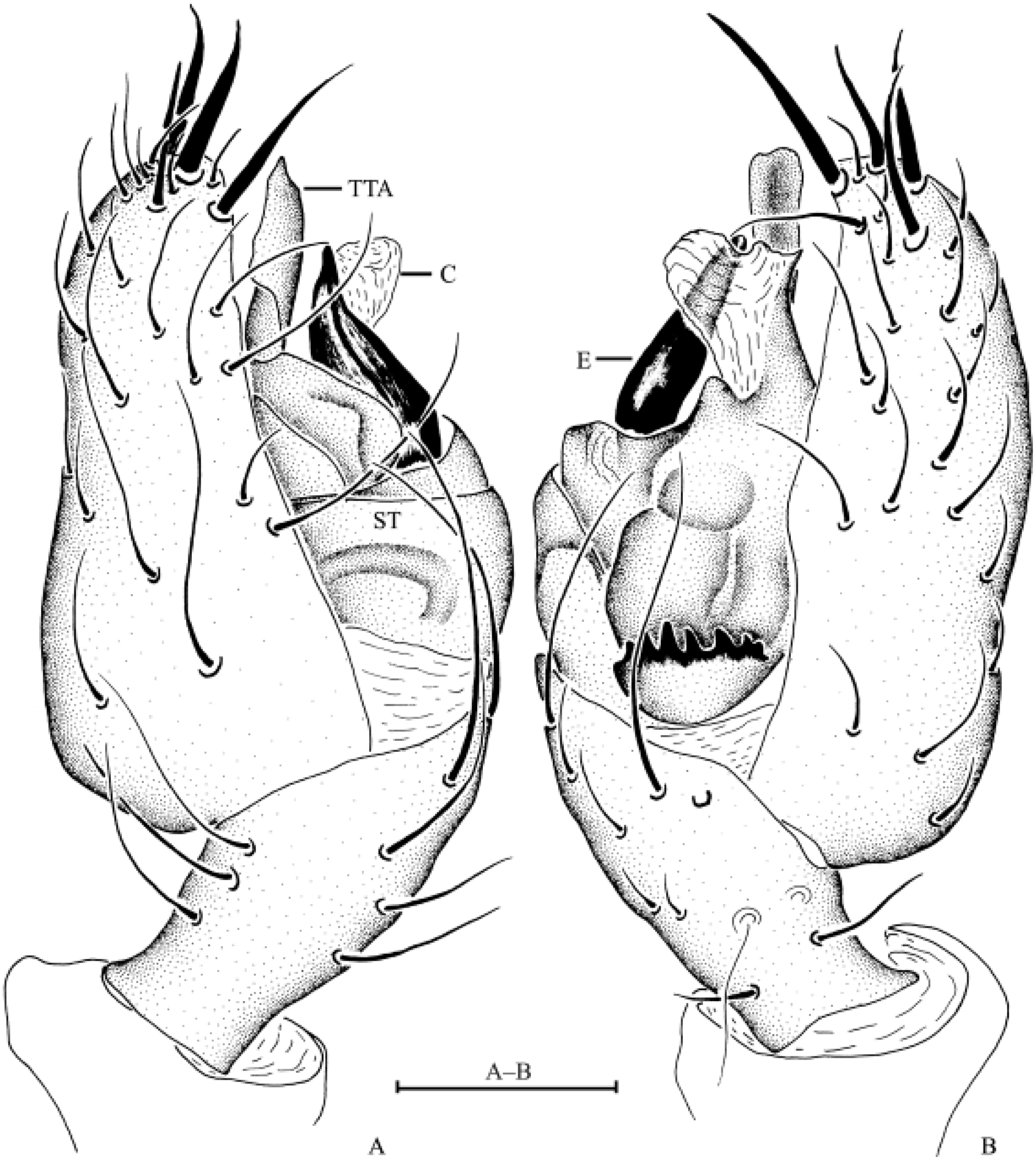

Fig. 75. *Theridion acanthopodum* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.10 mm.

Leg I pale yellow, coxa without spot; femur, patella, tibia and metatarsus with black spots; femur with row of spines; patella with 2 distal spines; tibia with 3 spines; metatarsus with 2 spines; tarsus without spines. Legs II–IV similar to leg I. Pedipalpus (Figs 75A–B, 76A–B, 77A–D): tibia yellow, with black spots, 2 trichobothria; cymbium yellow, with large black spot; paracymbium hooded; subtegulum covering most of tegulum; tegulum with long outgrowth; median apophysis smooth, without protrusion; embolus short, triangular; conductor membranous, with small sclerotized apophysis; tegular apophysis acerose.

Variation. Male paratypes. Total length 1.25–1.30; prosoma 0.55–0.60 long, 0.45–0.50 wide; sternum 0.35–0.38 long, 0.35–0.38 wide; opisthosoma 0.75–0.80 long, 0.60–0.63 wide.

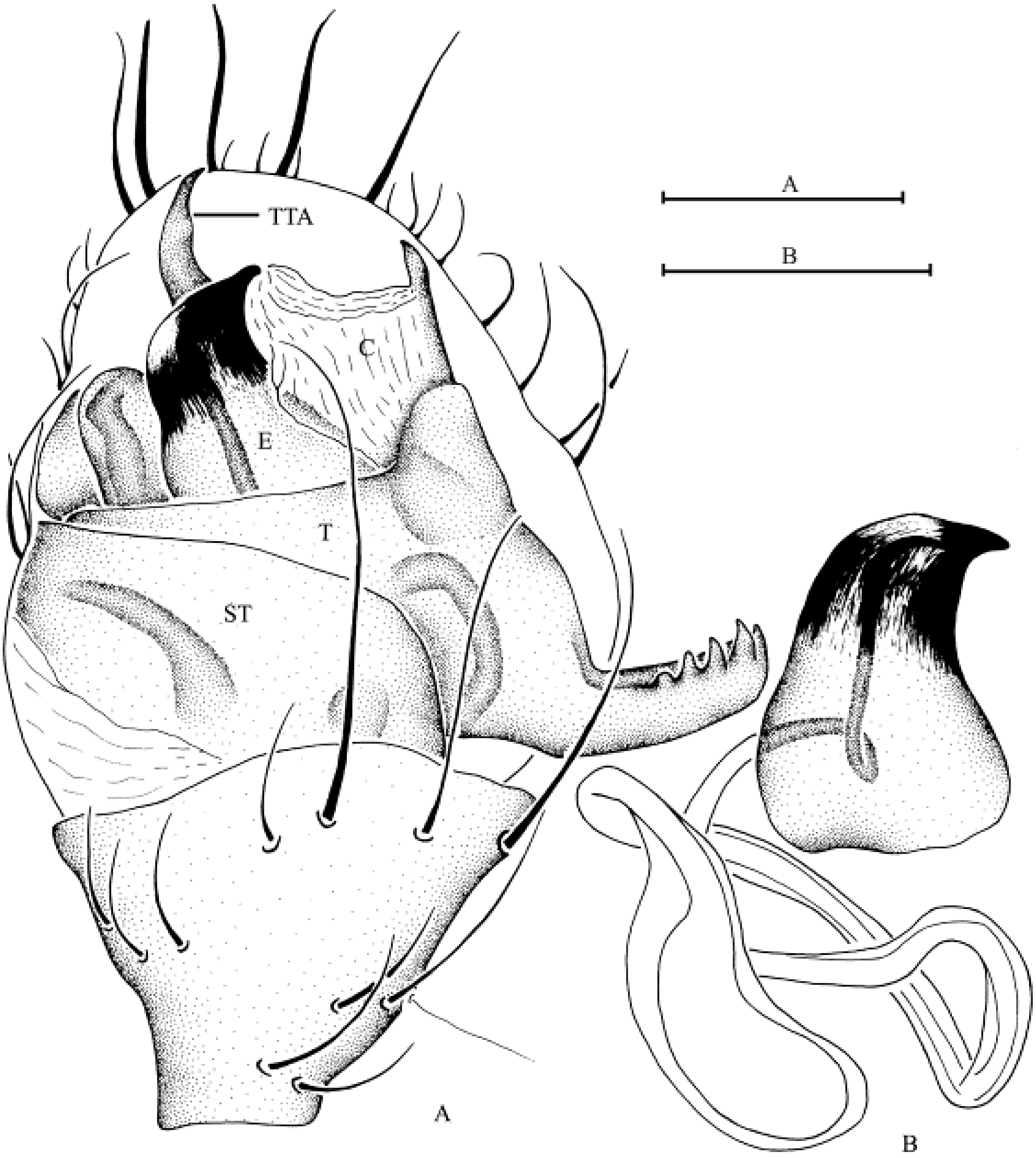

Fig. 76. *Theridion acanthopodum* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view. Scale bars = 0.10 mm.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

Theridion albioculum **Zhu, 1998**

Theridion albioculum Zhu, 1998: 128, figs 73A–F; Song *et al*., 1999: 137, figs 71I–J, O–P; Song *et al*., 2001: 113, figs 55A–F.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°54.200'N, 101°16.923'E), 16–31 May 2007, Guo Zheng leg.

Distribution. China (Gansu, Hebei, Shaanxi, Shanxi, Yunnan).

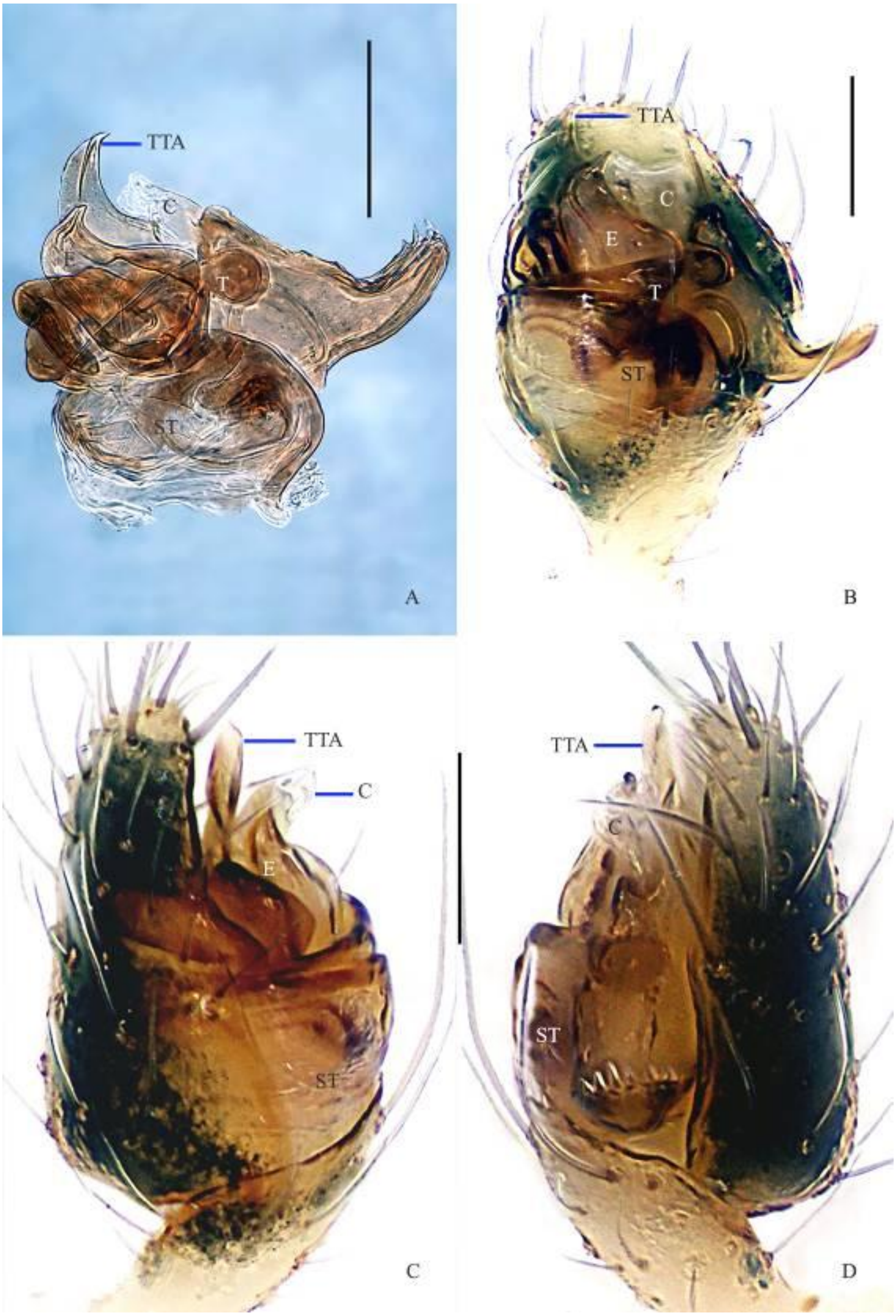

Fig. 77. *Theridion acanthopodum* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

Theridion chonetum Zhu, 1998

Theridion chonetum Zhu, 1998: 139, figs 82A–E; Song *et al*., 1999: 137, figs 72G–H, S–T.

Material examined. China, Yunnan, 1♂, 7♀, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21 °54.767'N, 101 °11.431'E), 10–20 June 2007, Guo Zheng leg.; 1♂, 7♀, Menglun Nature Reserve, secondary tropical seasonal moist forest (21 °54.607'N, 101 °17.005'E), 10–20 June 2007, Guo Zheng leg.

Distribution. China (Yunnan).

Theridion circuitum sp. nov. (Figs 78–80)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, primary tropical seasonal rainforest (21 °54.725'N, 101 °13.261'E), 8 August 2007, Guo Zheng leg.

Etymology. The specific name derives from the Latin adjective *circuitus* and means revolving, in reference to the winding embolus.

Diagnosis. The new species differs from other species of the genus by the embolus curving; conductor winding, with distal furcation.

Male. Total length 1.45. Prosoma 0.63 long, 0.50 wide, flat, grey, with black stripes, without seta. Sternum 0.38 long, 0.38 wide, grey. Opisthosoma 0.88 long, 0.75 wide, grey, with pale spots, without seta, with colulus. Eye measurements: AME 0.08, ALE 0.06, PME 0.06, PLE 0.06, AME-AME 0.09, AME-ALE 0.03, PME-PME 0.10, PME-PLE 0.05. Clypeus height about 2.00 times AME diameter, yellow, with apophysis. Chelicerae: yellow, without spot or tooth; fangs long and slender. Endites: 0.25 long, 0.10 wide, grey, with brown pro-edges. Labium fused with sternum, 0.08 long, 0.18 wide, with 2 setae, grey. Leg measurements: I 2.50 (0.75, 0.23, 0.63, 0.46, 0.43); II 1.90 (0.65, 0.19, 0.43, 0.33, 0.30); III 1.09 (0.38, 0.13, 0.19, 0.19, 0.20); IV 1.60 (0.61, 0.15, 0.31, 0.28, 0.25). Leg I yellow to grey, without spines, with only soft setae. Legs II–IV similar to leg I. Pedipalpus (Figs 78A–B, 79A–B, 80A–D): tibia yellow to black, with 2 trichobothria; cymbium yellow to black; paracymbium hooded; subtegulum broad; tegulum smooth, without apophysis; median apophysis smooth, without protrusion; embolus long, curved; conductor long, winding, with 2 apophyses; tegular apophysis with distal branches.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

Theridion cygneum sp. nov. (Figs 81–83)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21 °54.607'N, 101 °17.005'E), 28 July 2007, Guo Zheng leg.

Etymology. The specific name derives from the Latin adjective *cygneus* and means cygneous, in reference to the embolus curved, shape like a swan.

Diagnosis. The new species is similar to *T. iramon*, but can be distinguished the huge tegulum and membranous conductor.

Male. Total length 1.80. Prosoma 0.85 long, 0.63 wide, flat, yellow, without spot. Sternum 0.50 long, 0.50 wide, yellow with setae. Opisthosoma 0.88 long, 0.88 wide, pale, with black, white spots, long setae, colulus represented by 2 setae. Eye measurements: AME 0.07, ALE 0.07, PME 0.08, PLE 0.07, AME-AME 0.03, AME-ALE 0.05, PME-PME 0.04, PME-PLE 0.04. Clypeus height about 1.43 times AME diameter, yellow. Chelicerae: pale yellow, without spot or tooth; fangs long and slender. Endites: 0.25 long, 0.13 wide, pale yellow to grey, with brown pro-edges. Labium fused with sternum, 0.13 long, 0.19 wide, with 2 setae, yellow. Leg measurements: I 3.74 (1.25, 0.38, 1.05, 0.63, 0.43); II 3.07 (0.88, 0.33, 0.88, 0.60, 0.38); III 1.96 (0.63, 0.25, 0.38, 0.40, 0.30); IV 2.63 (0.80, 0.30, 0.63, 0.55, 0.35). Leg I yellow, coxa without spot; femur with 2 rows of spines; patella with 1 distal spine; tibia with 1 spine; metatarsus and tarsus without spine. Legs II–IV similar to leg I. Pedipalpus (Figs 81A–B, 82A–B, 83A–D): tibia yellow, with 2 trichobothria; cymbium yellow, without spot; paracymbium hooded; subtegulum broad; tegulum huge; median apophysis smooth, without protrusion; embolus short, curved, with apophysis shaped like cockscomb; conductor membranous.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

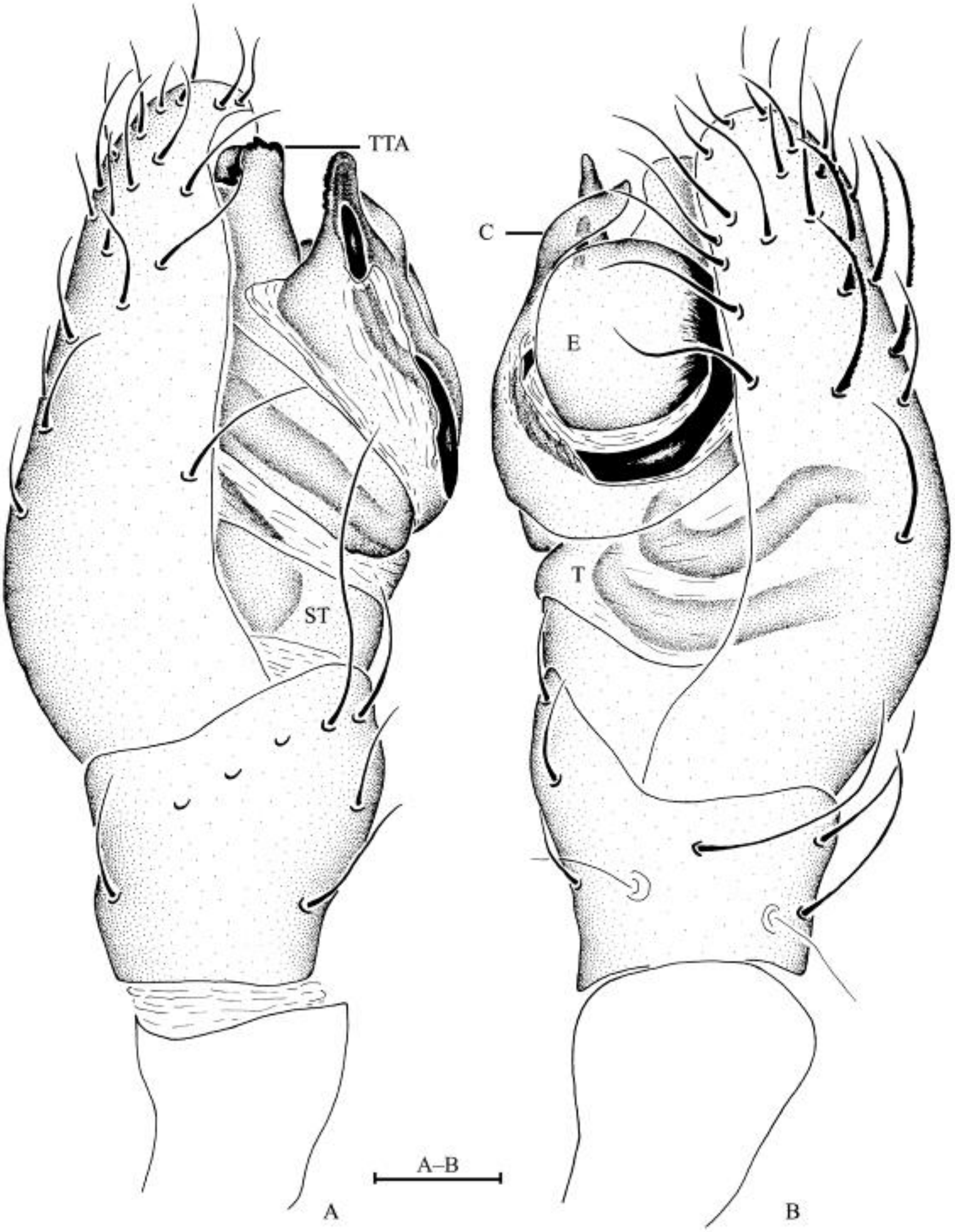

Fig. 78. *Theridion circuitum* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.05 mm.

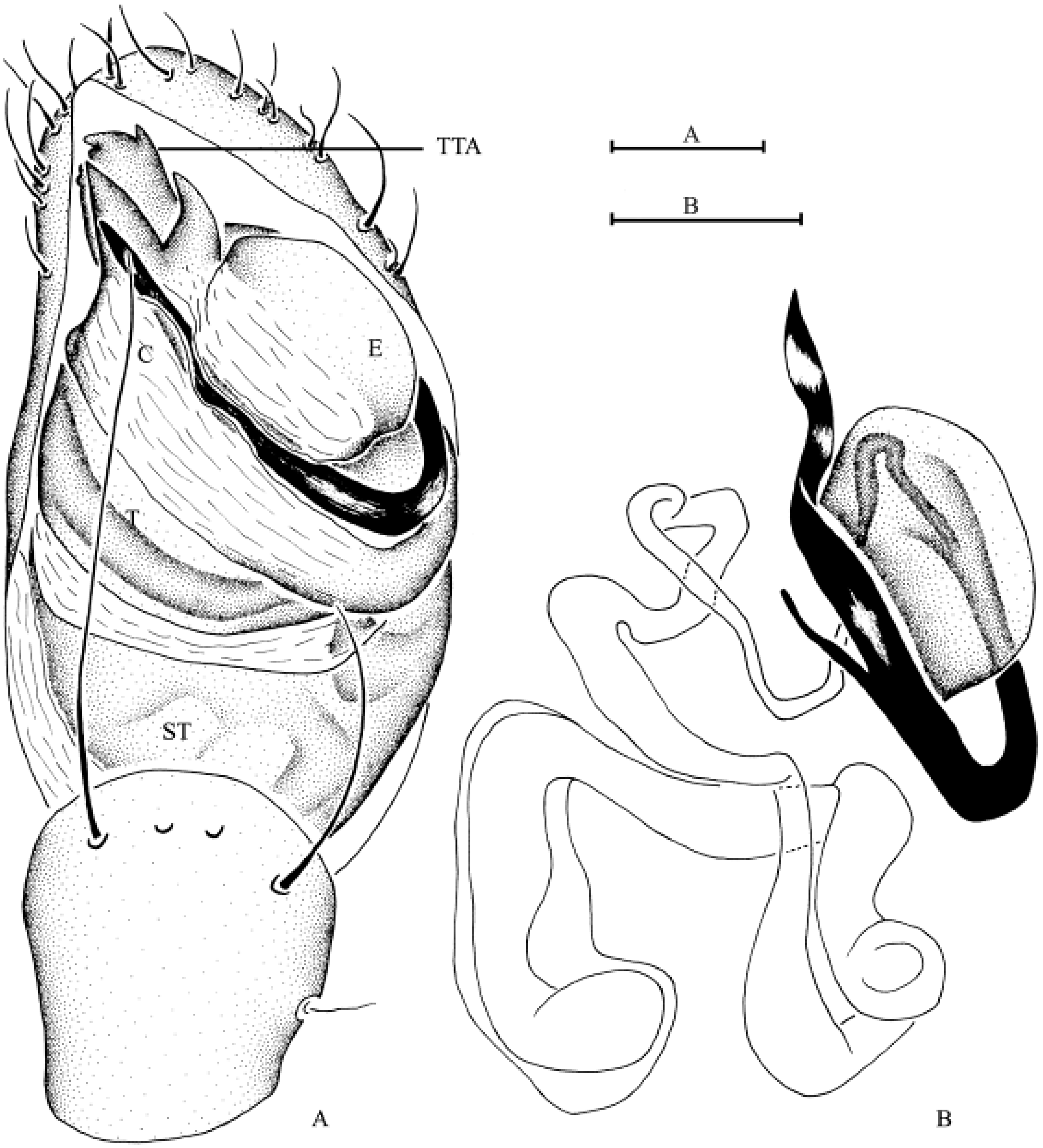

Fig. 79. *Theridion circuitum* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bars = 0.05 mm.

Theridion echinatum **sp. nov.** (Figs 84–86)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun, primary tropical seasonal rainforest (21°55.035'N, 101°16.500'E), 22 July 2007, Guo Zheng leg.

Paratype 1♂, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.718'N, 101°16.940'E), 27 July 2007, Guo Zheng leg.

Etymology. The specific name derives from the Latin adjective *echinatus* and means spiny, in reference to the cymbium with a strong spine.

Diagnosis. The new species is very similar to *T. albioculum*, but can be distinguished by having the median apophysis with a process and the conductor membranous.

Male (measurements of holotype). Total length 3.20. Prosoma 1.30 long, 1.23 wide, flat, pale yellow, with black

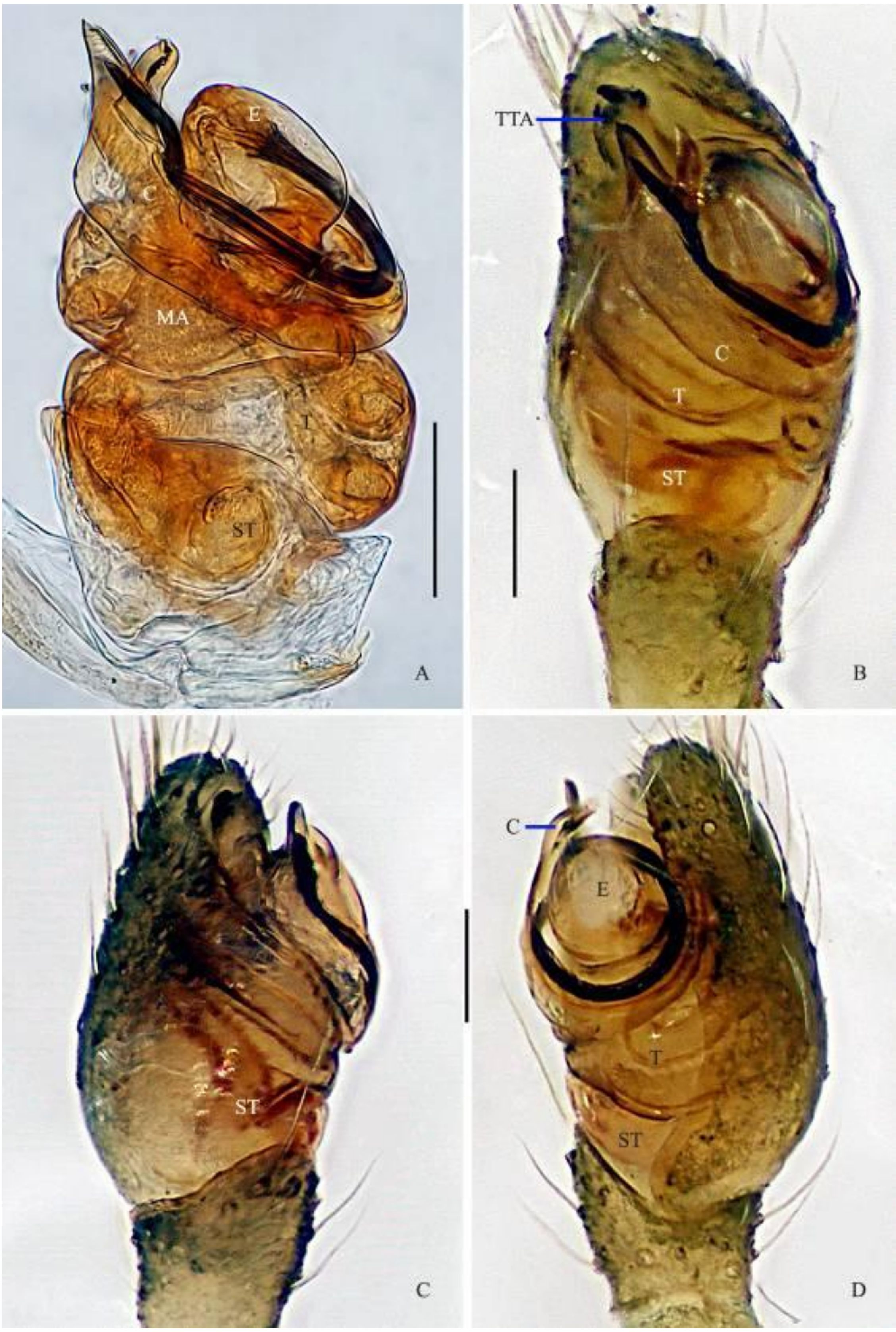

Fig. 80. *Theridion circuitum* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.05 mm.

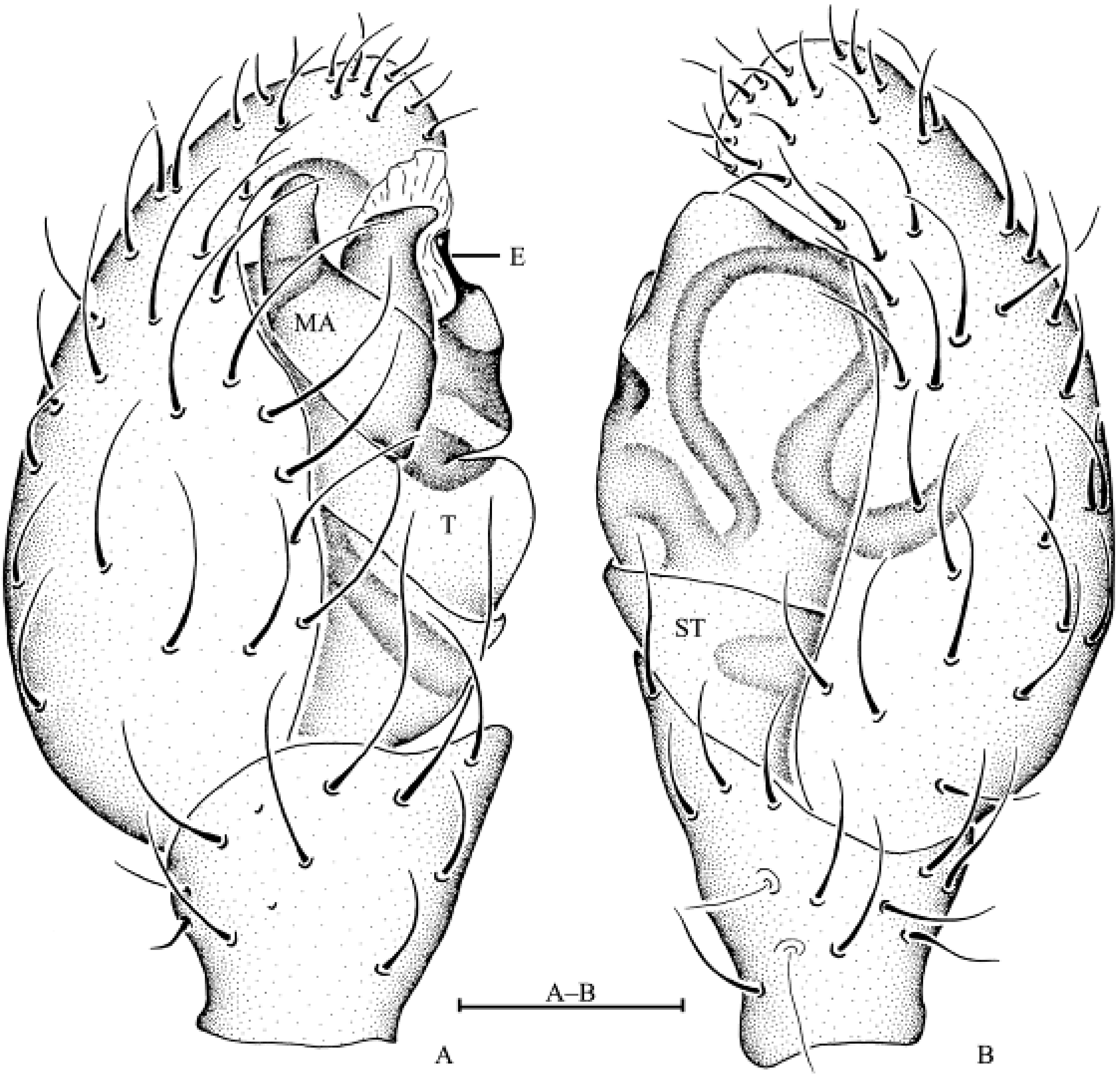

Fig. 81. *Theridion cygneum* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.10 mm.

stripes, 4 setae. Sternum 0.68 long, 0.63 wide, yellow, with setae. Opisthosoma 1.65 long, 1.35 wide, pale, with black transverse stripes, without colulus. Eye measurements: AME 0.13, ALE 0.09, PME 0.09, PLE 0.09, AME-AME 0.09, AME-ALE 0.03, PME-PME 0.09, PME-PLE 0.09. Clypeus height about 2.50 times AME diameter, yellow, with 3 setae. Chelicerae: yellow, with 2 anterior teeth, 1 spine; fangs long and slender. Endites: 0.32 long, 0.20 wide, yellow, with brown pro-edges. Labium fused with sternum, 0.08 long, 0.25 wide, with many setae, yellow. Leg measurements: I 7.76 (2.30, 0.63, 1.60, 2.13, 1.10); II 5.58 (1.75, 0.50, 1.23, 1.30, 0.80); III 3.96 (1.15, 0.33, 0.85, 1.00, 0.63); IV 5.11 (2.00, 0.50, 0.88, 1.10, 0.63). Leg I coxa pale yellow, without spot; femur pale yellow, without spot; patella pale yellow; tibia yellow, without spot; metatarsus and tarsus grey; femur without strong spine, patella with 2 strong spines; tibia with 2 rows of spines; metatarsus and tarsus with many spines, trichobothria. Legs II–IV similar to leg I femur II–IV yellow, with black spot; tibia II, III yellow, with black ring; metatarsus II, III grey, with black ring; tibia II grey, with black ring; tibia II–IV with 2 strong spines. Pedipalpus (Figs 84A–B, 85A–B, 86A–D): tibia yellow, with 2 trichobothria; cymbium yellow, with long spine; paracymbium hooked; subtegulum broad; tegulum confined; median apophysis with long apophysis; embolus long, flagelliform, with basal hollow; conductor membranous; tegular apophysis long.

Variation. Male paratype. Total length 2.85; prosoma 1.33 long, 1.20 wide; sternum 0.75 long, 0.75 wide; opisthosoma 1.38 long, 1.08 wide. Leg I coxa yellow, without black spot; femur yellow, with black spot; patella yellow,

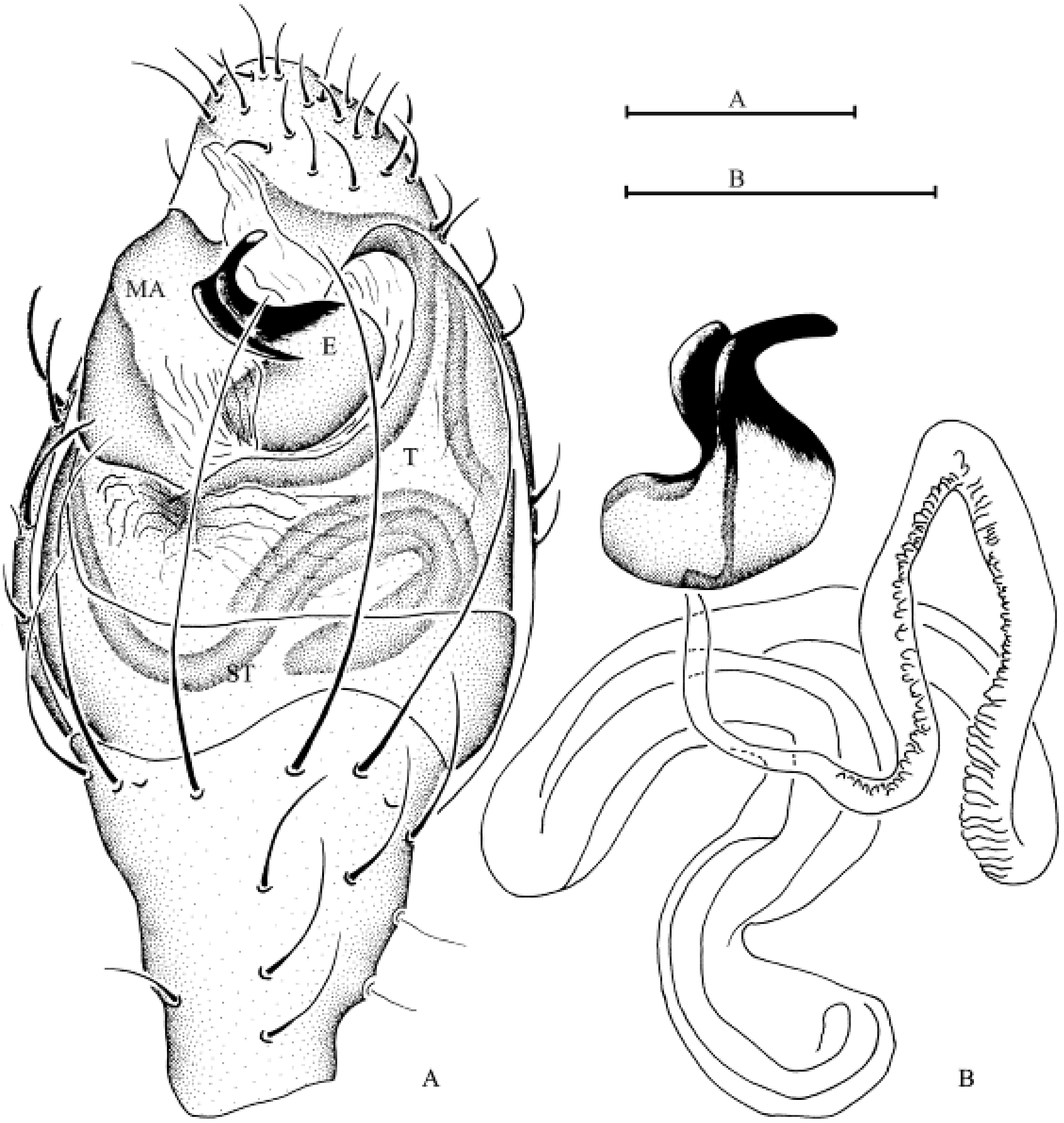

Fig. 82. *Theridion cygneum* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view. Scale bars = 0.10 mm.

without spot; tibia yellow, with black spot; metatarsus and tarsus grey. Legs II–IV femora yellow to grey; patella, tibia, metatarsus and tarsus grey.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

***Theridion falcatum* sp. nov.** (Figs 87–89)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°54.767'N, 101°11.431'E), 6 August 2007, Guo Zheng leg.

Etymology. The specific name derives from the Latin adjective *falcatus* and means sickle-shaped, in reference to the conductor with a long outgrowth, shaped like a sickle.

Diagnosis. The new species is very similar to *T. longipili*, but can be distinguished by the conductor with a long

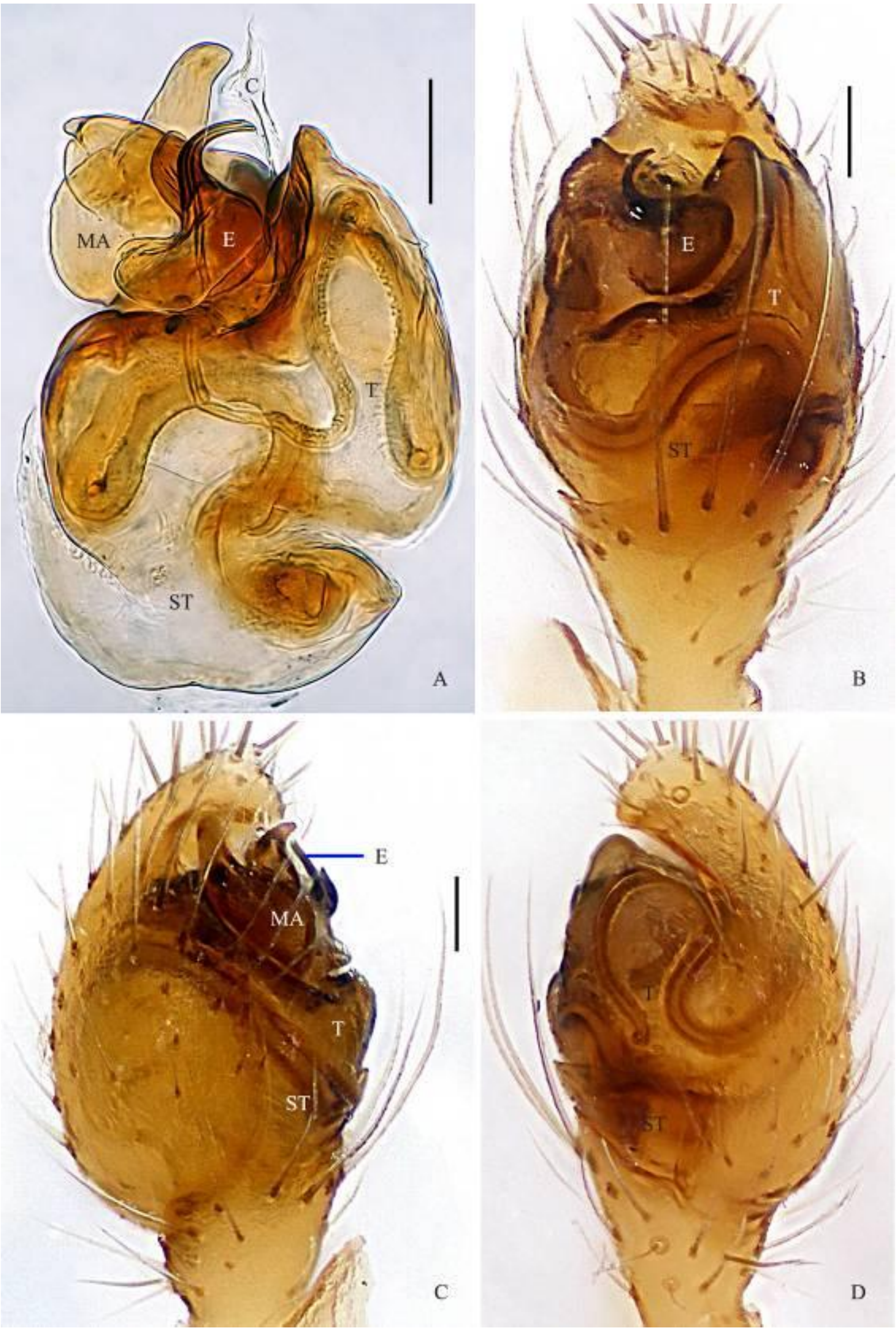

Fig. 83. *Theridion cygneum* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.05 mm.

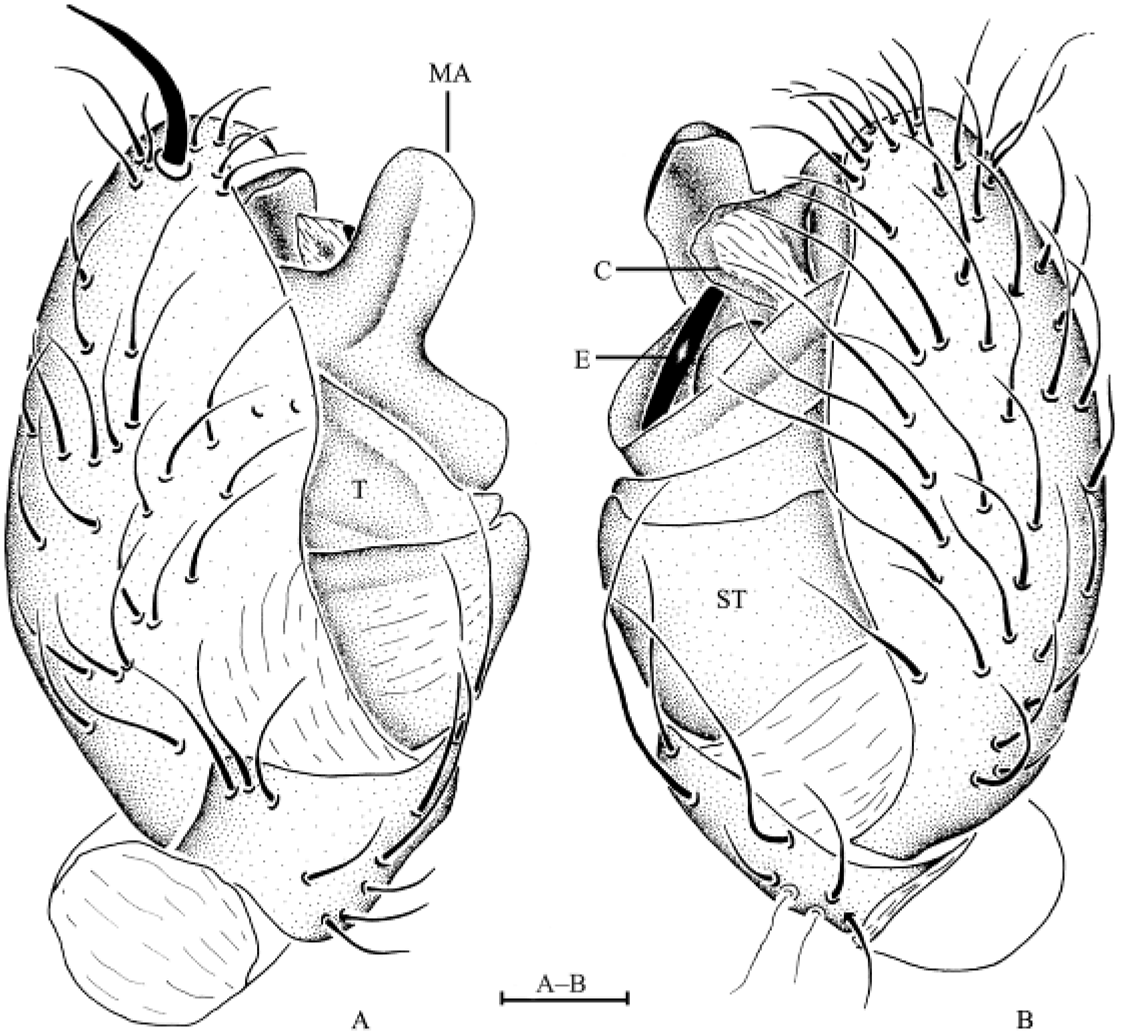

Fig. 84. *Theridion echinatum* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.10 mm.

outgrowth; tegular apophysis straight; embolus with a basal apophysis.

Male. Total length 2.00. Prosoma 1.04 long, 0.81 wide, brown, with black stripes. Sternum 0.44 long, 0.44 wide, grey, without seta. Opisthosoma 1.13 long, 0.81 wide, grey, with 2–3 black stripes, without colulus. Eye measurements: AME 0.10, ALE 0.09, PME 0.08, PLE 0.09, AME-AME 0.09, AME-ALE 0.04, PME-PME 0.08, PME-PLE 0.07. Clypeus height about 2.00 times AME diameter, brown, with black edge. Chelicerae: brown, with 2 anterior teeth; fangs long and slender. Endites: 0.31 long, 0.15 wide, brown, with dark pro-edges. Labium fused with sternum, 0.10 long, 0.20 wide, with 6 setae, brown. Leg measurements: I 3.91 (1.05, 0.38, 1.00, 0.98, 0.50); II 2.76 (0.84, 0.34, 0.65, 0.53, 0.40); III 1.96 (0.58, 0.25, 0.38, 0.44, 0.31); IV 2.67 (0.81, 0.31, 0.50, 0.65, 0.40). Leg I coxa yellow, with black edge; femur yellow, with black spot; patella yellow, with black spot; tibia-tarsus yellow, without spot; femur with 2 rows of spines; patella with 2 spines; tibia with 2 spines, many trichobothria; metatarsus and tarsus without spine, with many trichobothria. Leg II similar to leg I, leg III, leg IV pale, metatarsus with 2 spines. Pedipalpus (Figs 87A–B, 88A–D, 89A–D): tibia yellow, with 2 trichobothria; cymbium yellow, without spot; paracymbium hooked; subtegulum broad; tegulum confined; median apophysis large, crinkled on surface, without protrusion; embolus long, with basal apophysis; conductor crinkled, with long outgrowth; tegular apophysis with tiny processes.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

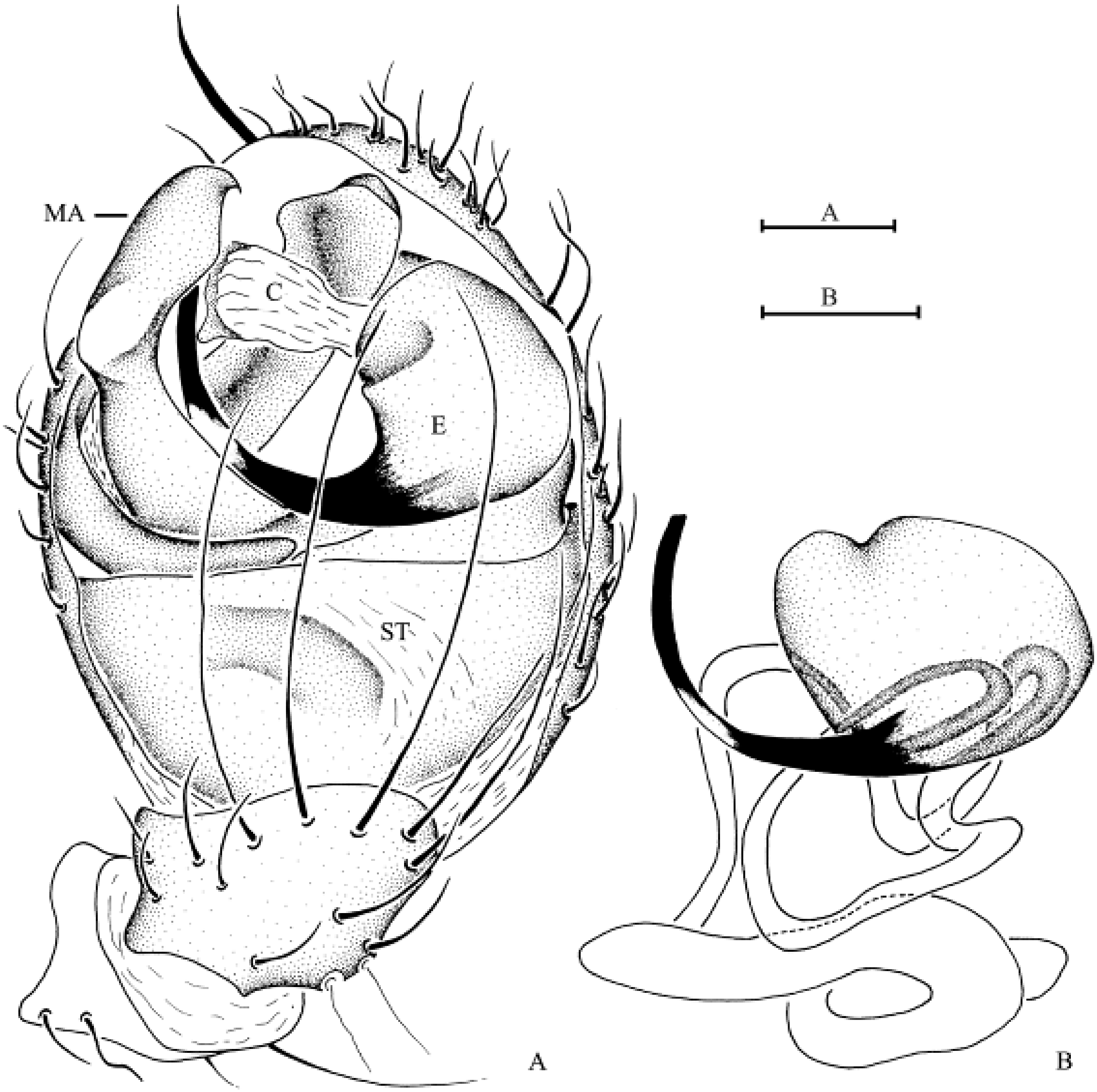

Fig. 85. *Theridion echinatum* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view. Scale bars = 0.10 mm.

Theridion hotanense **Zhu & Zhou, 1993**

Theridion petraeum Hu & Wu, 1989: 136, figs 108.1–2 (misidentified).
Theridion pinastri Hu & Wu, 1989: 137, figs 109 (misidentified).
Theridion hotanensis Zhu & Zhou, 1993: 84, figs 1–6; Zhu, 1998: 132, figs 76A–F; Song *et al*., 1999: 137, figs 73E–F, M–N.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun, bamboo plantation (21°54.380'N, 101°16.815'E), 21 November 2009, Guo Tang and Zhi-Yuan Yao leg.

Distribution. China (Xinjiang, Yunnan).

Theridion irrugatum **sp. nov.** (Figs 90–92)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun, bamboo plantation (21°54.380'N, 101°16.815'E), 21 November 2009, Guo Tang and Zhi-Yuan Yao leg.

Etymology. The specific name derives from the Latin adjective *irrugatus* and means rugose, in reference to the

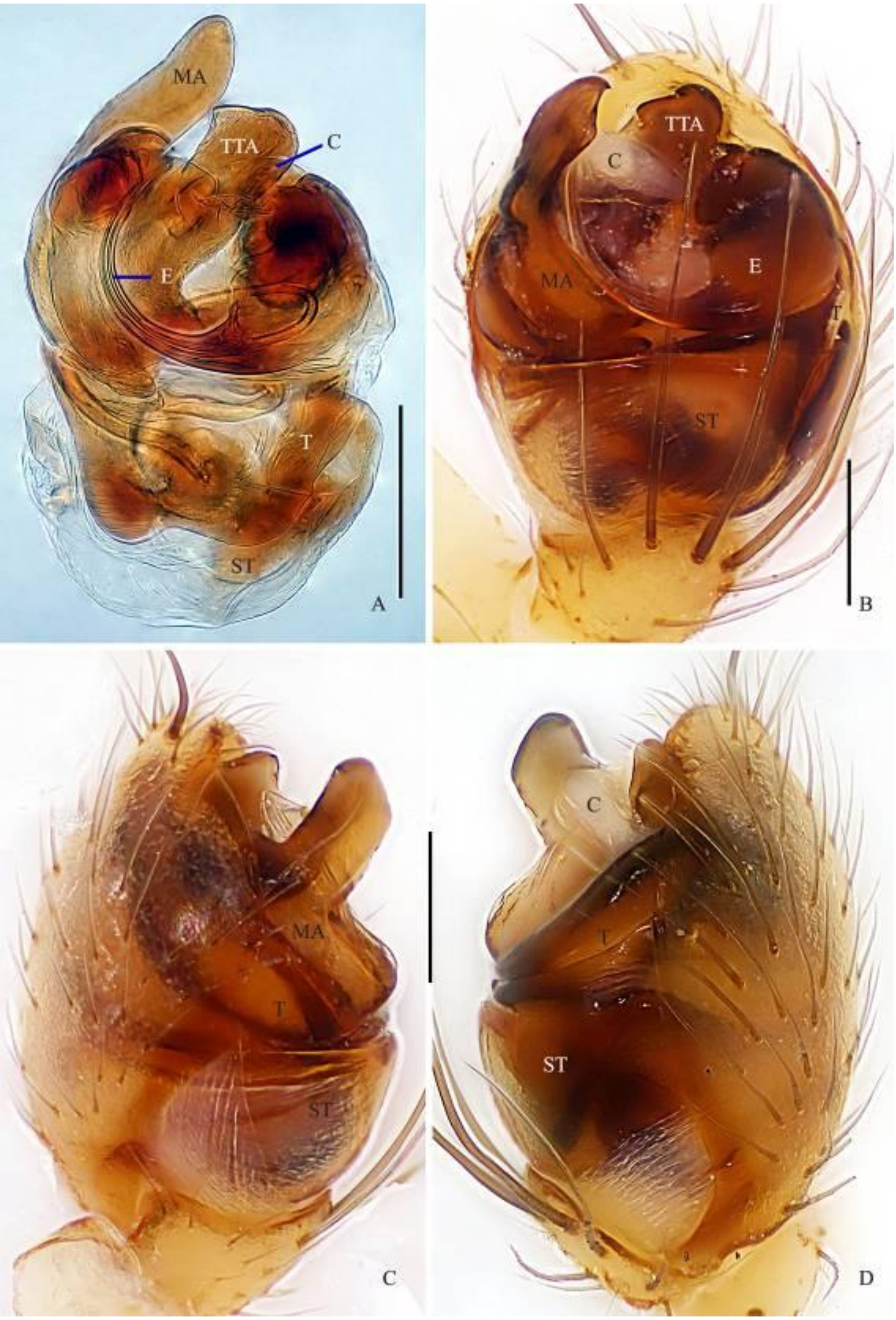

Fig. 86. *Theridion echinatum* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

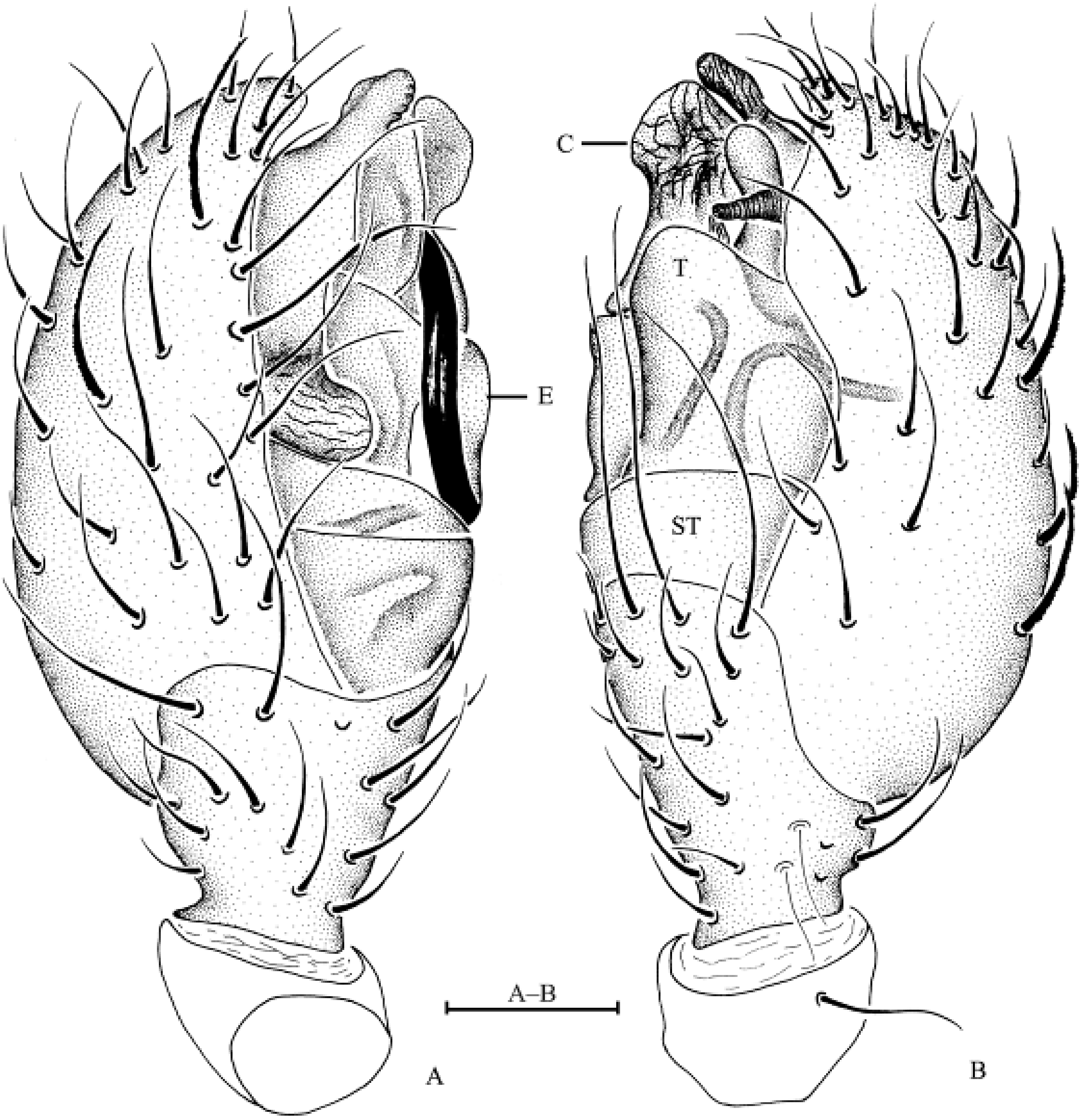

Fig. 87. *Theridion falcatum* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.10 mm.

median apophysis with many pleats.

Diagnosis. The new species is very similar to *T. longipili*, but can be distinguished by the median apophysis with a ridge and many pleats; tegular apophysis similar to "H".

Male. Total length 1.50. Prosoma 0.63 long, 0.55 wide, flat, brown, without spot. Sternum 0.31 long, 0.38 wide, brown with little setae. Opisthosoma 0.88 long, 0.66 wide, pale, with black and white spots, without colulus. Eye measurements: AME 0.08, ALE 0.06, PME 0.09, PLE 0.09, AME-AME 0.06, AME-ALE 0.02, PME-PME 0.02, PME-PLE 0.04. Clypeus height about 0.61 times AME diameter, yellow. Chelicerae: yellow, with 3 long spines, 1 anterior tooth; fangs long and slender. Endites: 0.34 long, 0.11 wide, yellow, with brown pro-edges. Labium fused with sternum, 0.06 long, 0.16 wide, with 2 setae, yellow. Leg measurements: I 2.27 (0.68, 0.19, 0.46, 0.50, 0.44); II 2.18 (0.65, 0.21, 0.44, 0.48, 0.40); III 1.86 (0.63, 0.20, 0.38, 0.35, 0.30); IV 2.60 (0.75, 0.23, 0.63, 0.55, 0.44). Leg I yellow, coxa without spot; femur without spine; patella with 2 spines; tibia with 2 spines; metatarsus and tarsus without spine. Legs II–IV similar to leg I. Pedipalpus (Figs 90A–B, 91A–B, 92A–D): tibia yellow, with 2 trichobothria; cymbium yellow, without spot;

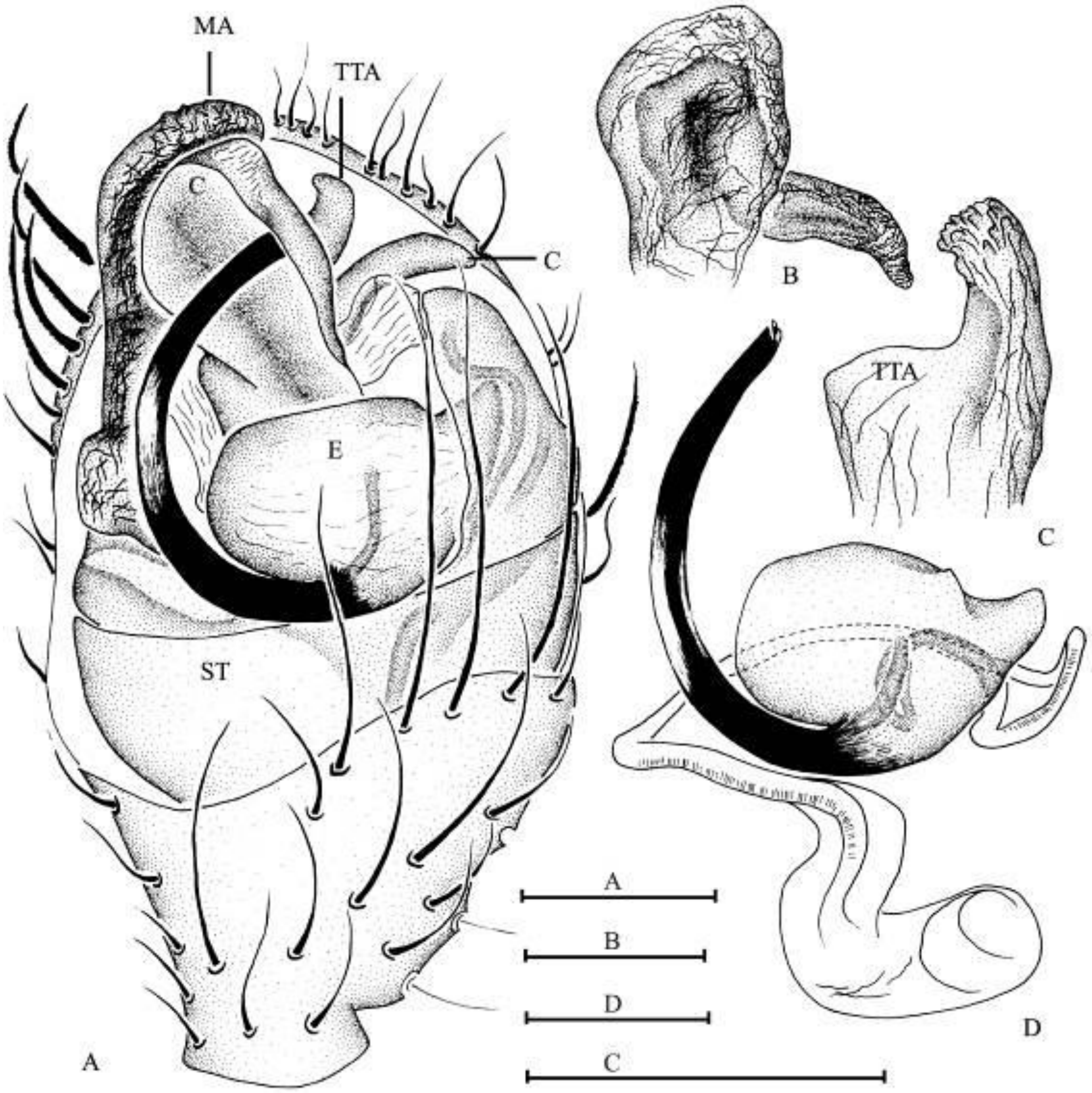

Fig. 88. *Theridion falcatum* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Conductor, ventral view; C. TTA, ventral view; D. Embolus, ventral view. Scale bars = 0.10 mm.

paracymbium hooded; subtegulum broad; tegulum confined, indistinguishable in ventral view; median apophysis with ridge, many pleats; embolus long, curved; conductor with notch, connected to tegulum by membrane; tegular apophysis wider than long, H-shaped.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

Theridion mucidum **sp. nov.** (Figs 93–96)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, primary tropical seasonal rainforest (21°54.725'N, 101°13.261'E), 8 August 2007, Guo Zheng leg.

Paratypes: 10♂, 3♀, Menglun, primary tropical seasonal rainforest (21°55.035'N, 101°16.500'E), 22 July 2007, Guo Zheng leg.

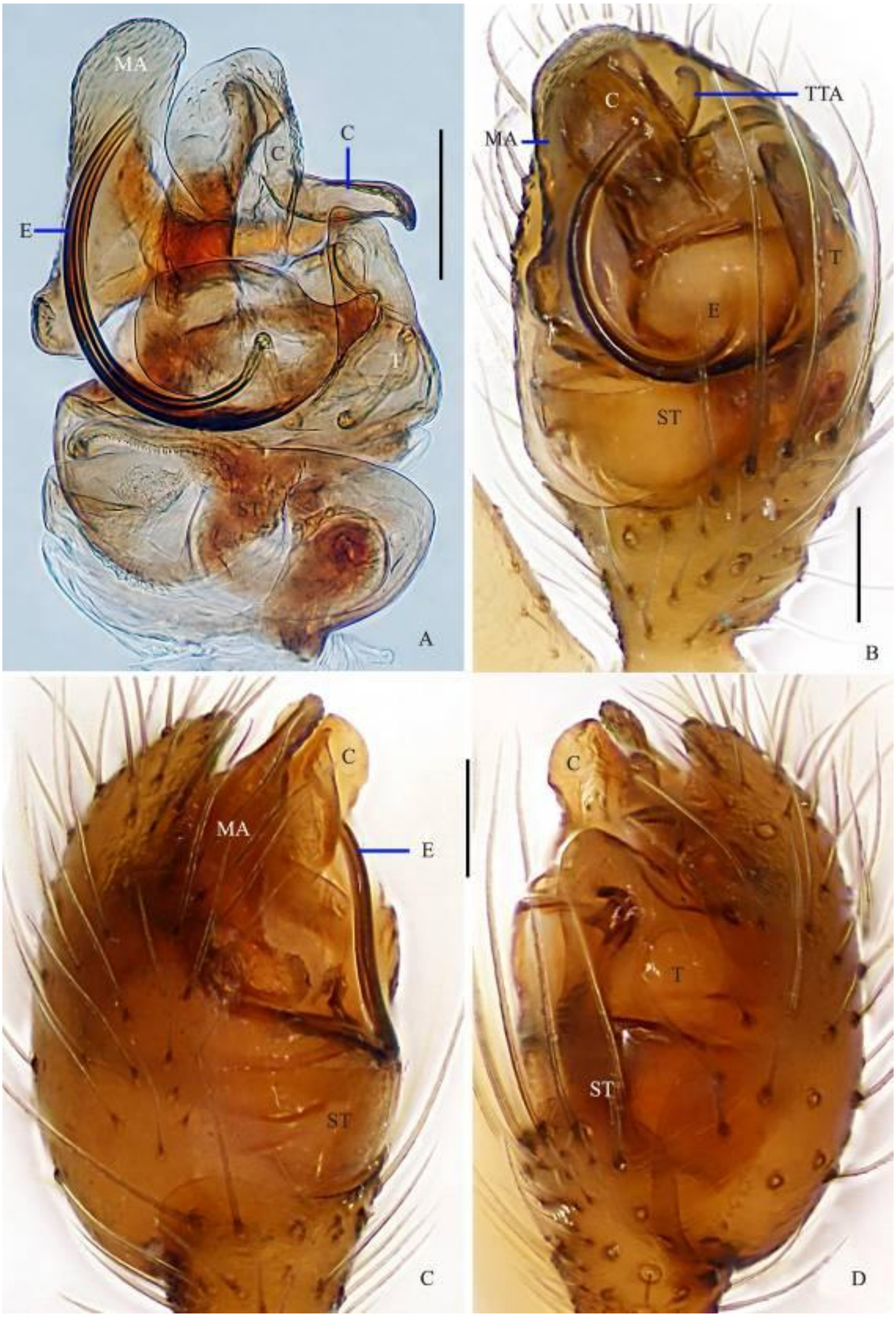

Fig. 89. *Theridion falcatum* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.10 mm.

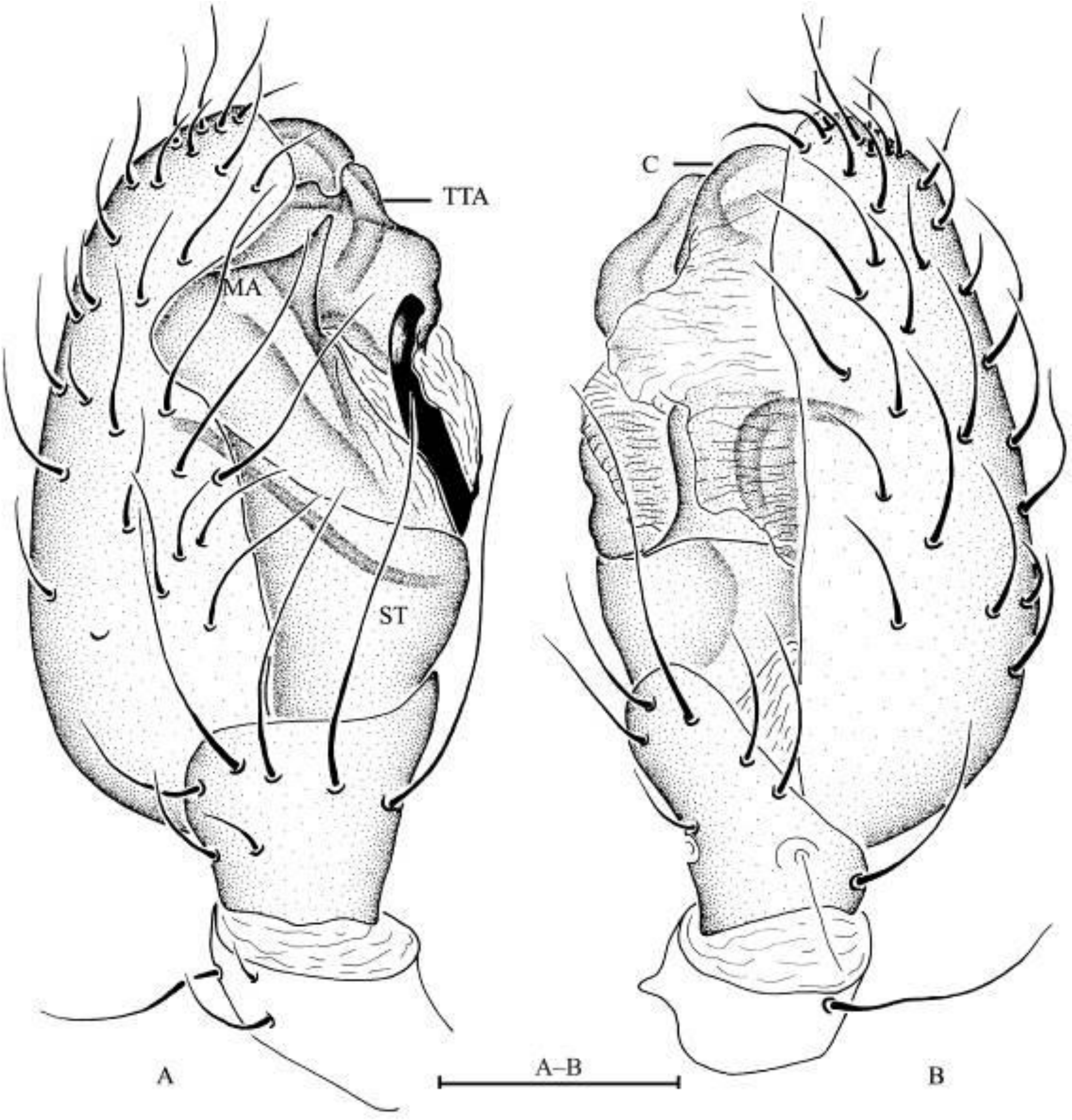

Fig. 90. *Theridion irrugatum* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.10 mm.

Etymology. The specific name derives from the Latin adjective *mucidus* and means moldy, in reference to the cymbium with black spots, liked mildew accreting on it.

Diagnosis. The new species is very similar to *T. makotoi*, but can be distinguished by having the embolus shorter and the tegular apophysis having a zigzag edge.

Male (measurements of holotype). Total length 1.15. Prosoma 0.50 long, 0.44 wide, yellow, with black stripes. Sternum 0.34 long, 0.33 wide, yellow with large black spot. Opisthosoma 0.55 long, 0.56 wide, pale, with black, white spots, without colulus. Eye measurements: AME 0.09, ALE 0.08, PME 0.09, PLE 0.08, AME-AME 0.04, AME-ALE 0.02, PME-PME 0.03, PME-PLE 0.04. Clypeus height about 1.14 times AME diameter, yellow with black spot. Chelicerae: yellow, with 2 anterior teeth; fangs long. Endites: 0.19 long, 0.15 wide, yellow, with brown pro-edges. Labium fused with sternum, 0.06 long, 0.14 wide, with 4 setae, yellow with large black spot. Leg measurements: I 2.64 (0.81, 0.31, 0.69, 0.50, 0.33); II 2.30 (0.80, 0.21, 0.58, 0.38, 0.33); III 1.92 (0.69, 0.13, 0.40, 0.40, 0.30); IV 2.19 (0.70, 0.30, 0.53, 0.35, 0.31). Leg I coxa pale, without spot; femur pale without spot; patella-metatarsus pale, with black spots; femur with

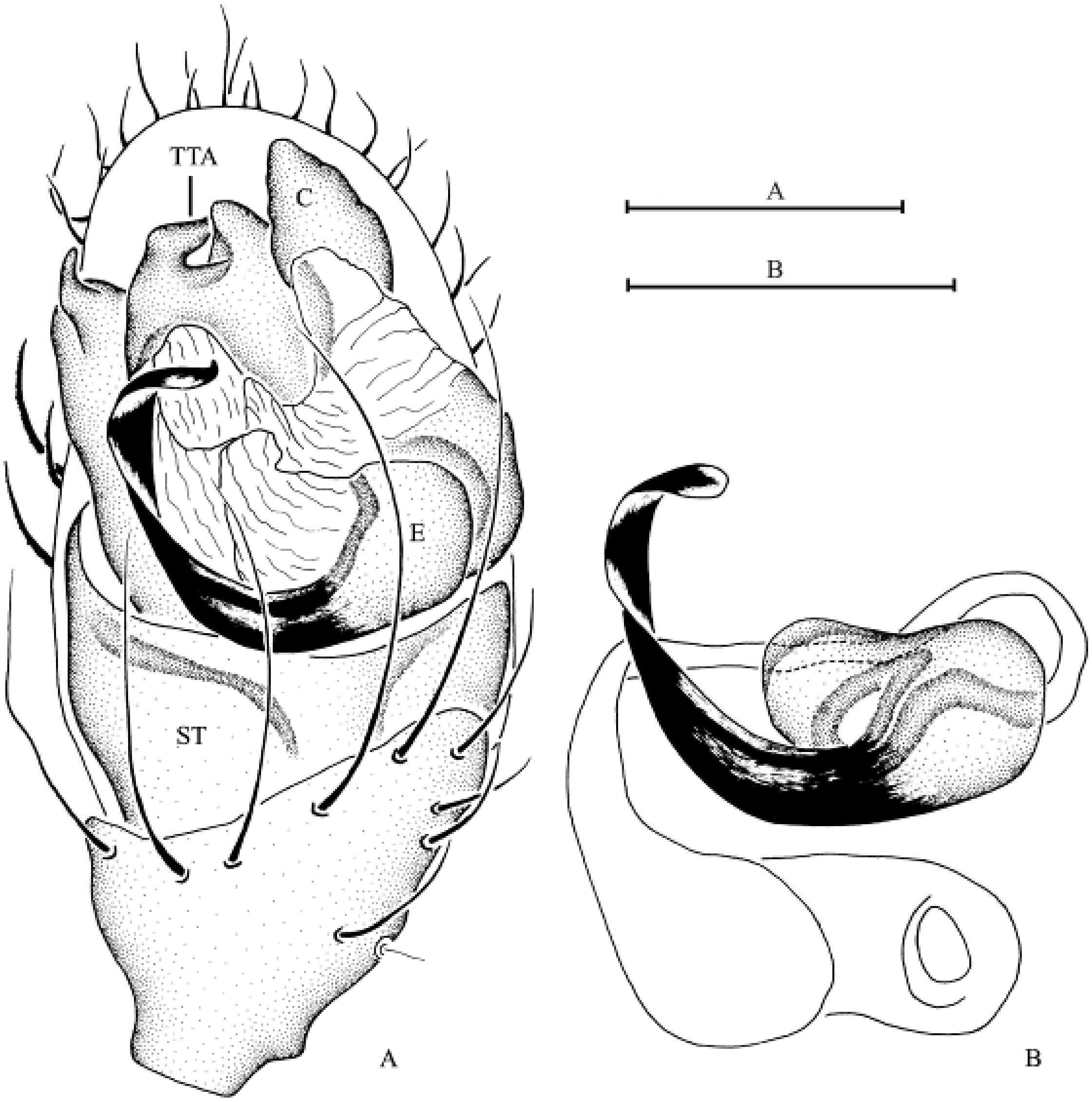

Fig. 91. *Theridion irrugatum* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view. Scale bars = 0.10 mm.

slender setae, without spine; patella with 2 trichobothria, without spine; tibia with many trichobothria; metatarsus with 2 trichobothria; tarsus without spine. Legs II–IV similar to leg I, femur IV pale, with black spot. Pedipalpus (Figs 93A–B, 94A–C, 96A–D): tibia yellow, with black spot, 2 trichobothria; cymbium yellow, with large black spot; paracymbium hooded; subtegulum broad; tegulum confined; median apophysis smooth; embolus short, curved; conductor puckered at distal end; tegular apophysis with zigzag edge.

Variation. Male paratypes. Total length 1.30–1.35; prosoma 0.60–0.63 long, 0.50–0.65 wide; sternum 0.35–0.40 long, 0.35–0.38 wide; opisthosoma 0.60–0.63 long, 0.45–0.60 wide.

Female (measurements of paratypes). Total length 1.43–1.50. Prosoma 0.60–0.63 long, 0.50–0.58 wide, flat, yellow, with black stripes. Sternum 0.35–0.38 long, 0.33–0.38 wide, pale yellow. Opisthosoma 0.85–0.88 long, 0.85–0.90 wide, pale, with white, black spots. Legs yellow, similar to male. Epigynum (Figs 93C–D, 95A–B): epigynum flat, with handle; copulatory openings small, inconspicuous; spermathecae spherical, slender, crimpled, without distinct sclerotizations copulatory ducts slender, curved, from middle part of spermathecae, opening to nterior margin of atrium; fertilization ducts pale, slender, from posterior edge of spermathecae.

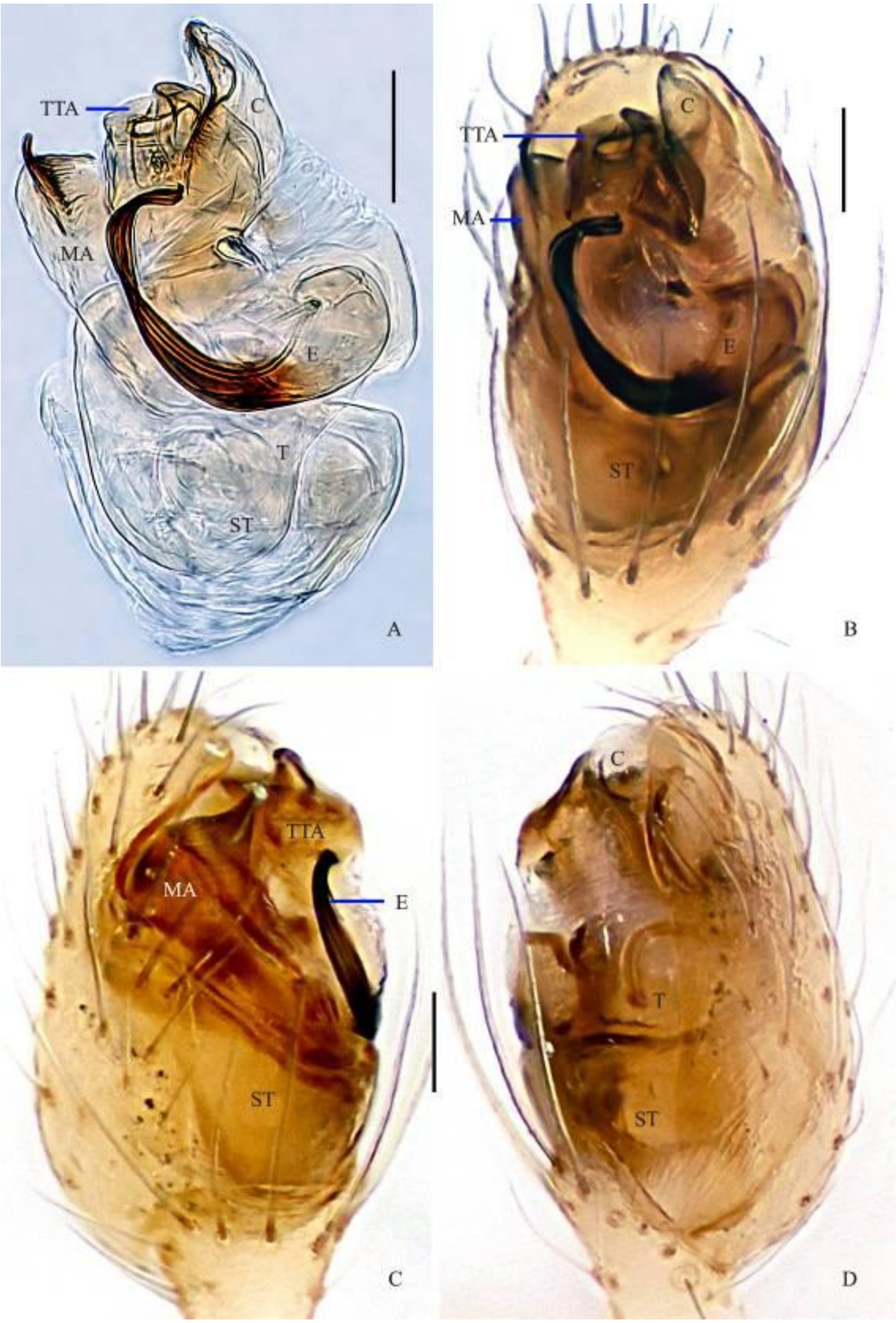

Fig. 92. *Theridion irrugatum* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.05 mm.

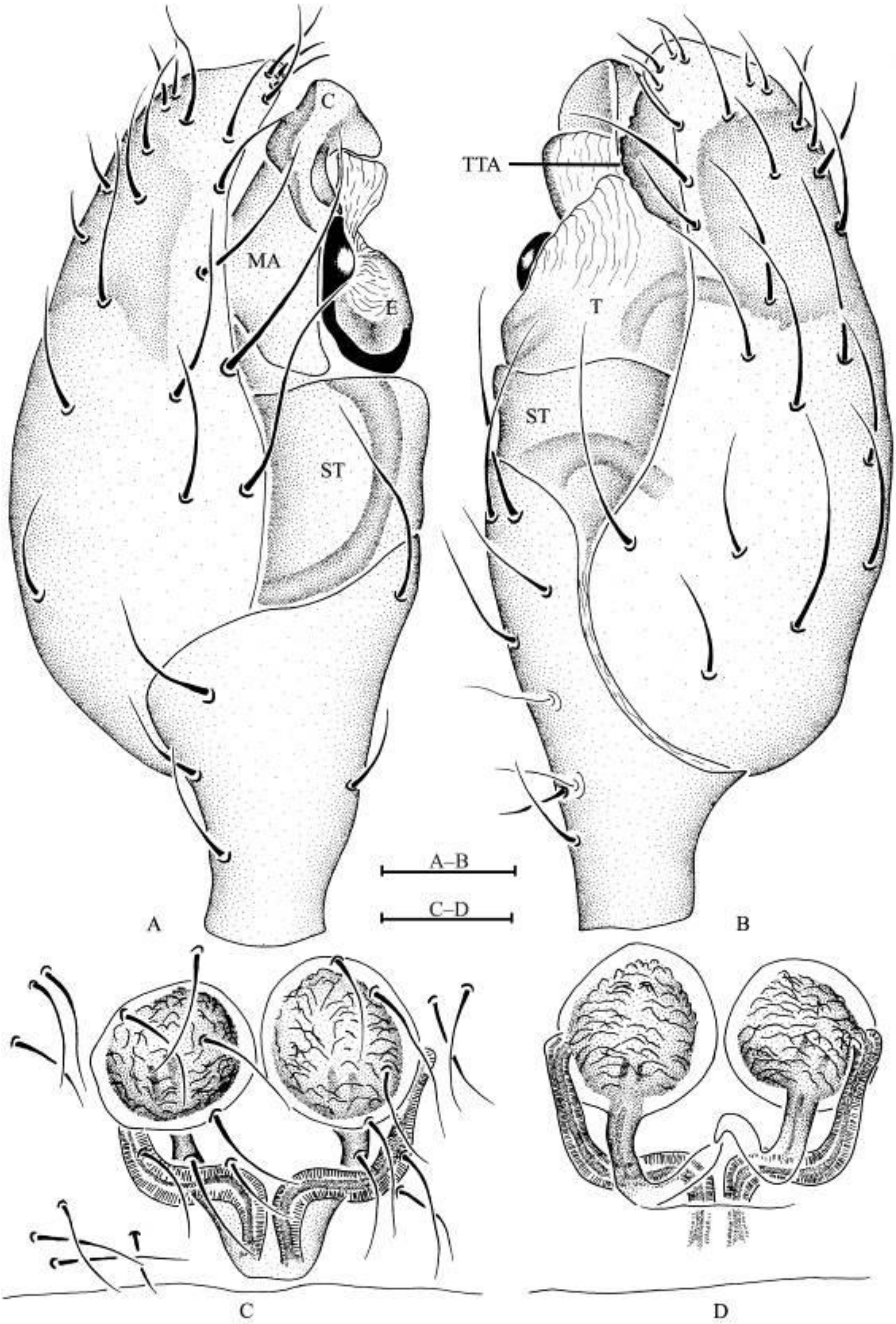

Fig. 93. *Theridion mucidum* **sp. nov.**, holotype male and paratype female. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view; C. Epigynum (vulva), ventral view; D. Epigynum (vulva), dorsal view. Scale bars = 0.05 mm.

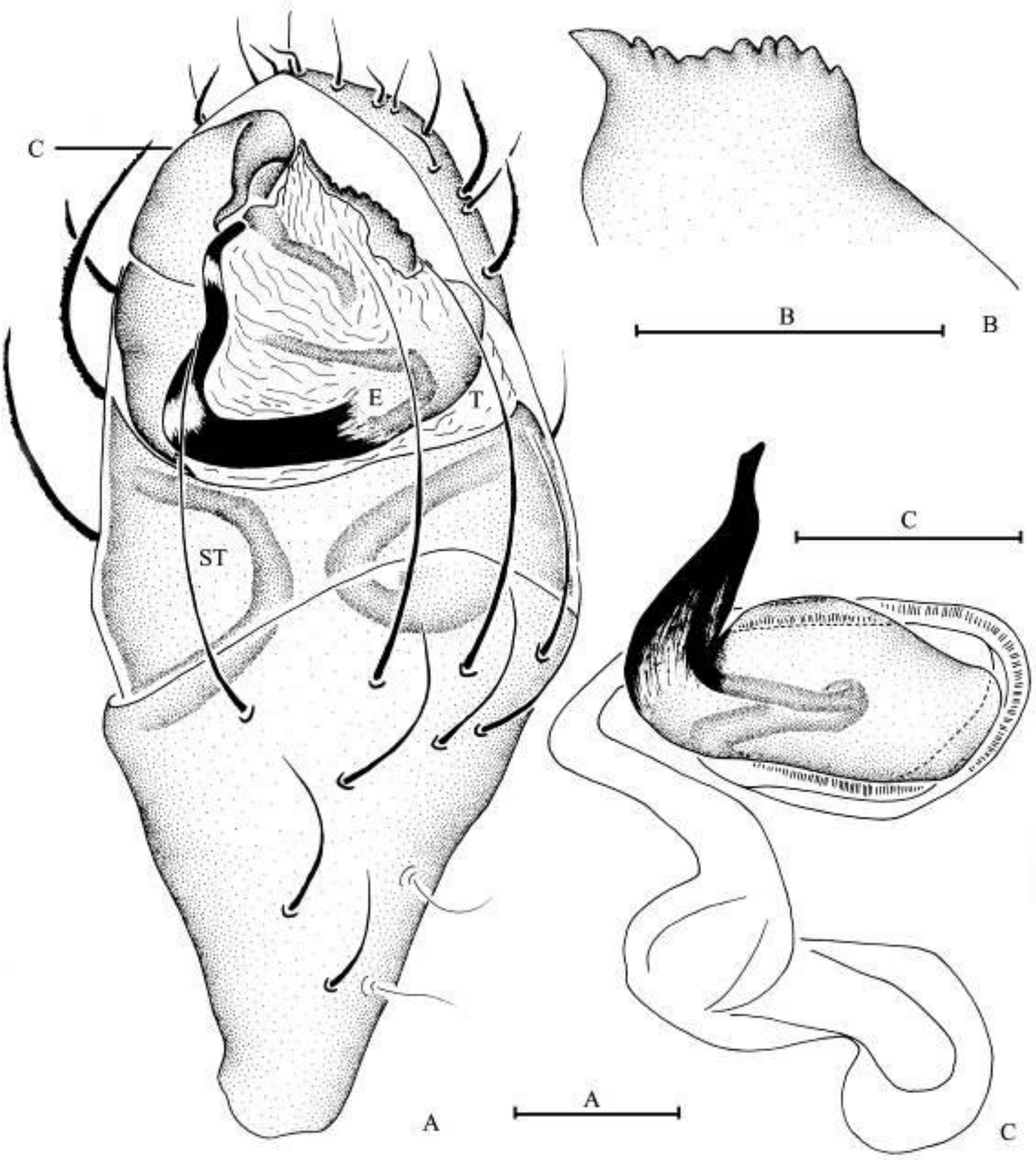

Fig. 94. *Theridion mucidum* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. TTA, ventral view; C. Embolus, ventral view. Scale bars = 0.05 mm.

Distribution. Only known from type locality (Yunnan).

Theridion papillatum **sp. nov.** (Figs 97–100)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.390'N, 101°16.811'E), 10 August 2007, Guo Zheng leg.

Paratypes 3♀, same data as holotype.

Etymology. The specific name derives from the Latin adjective *papillatus* and means withbuds, in reference to the embolus with mastoid process.

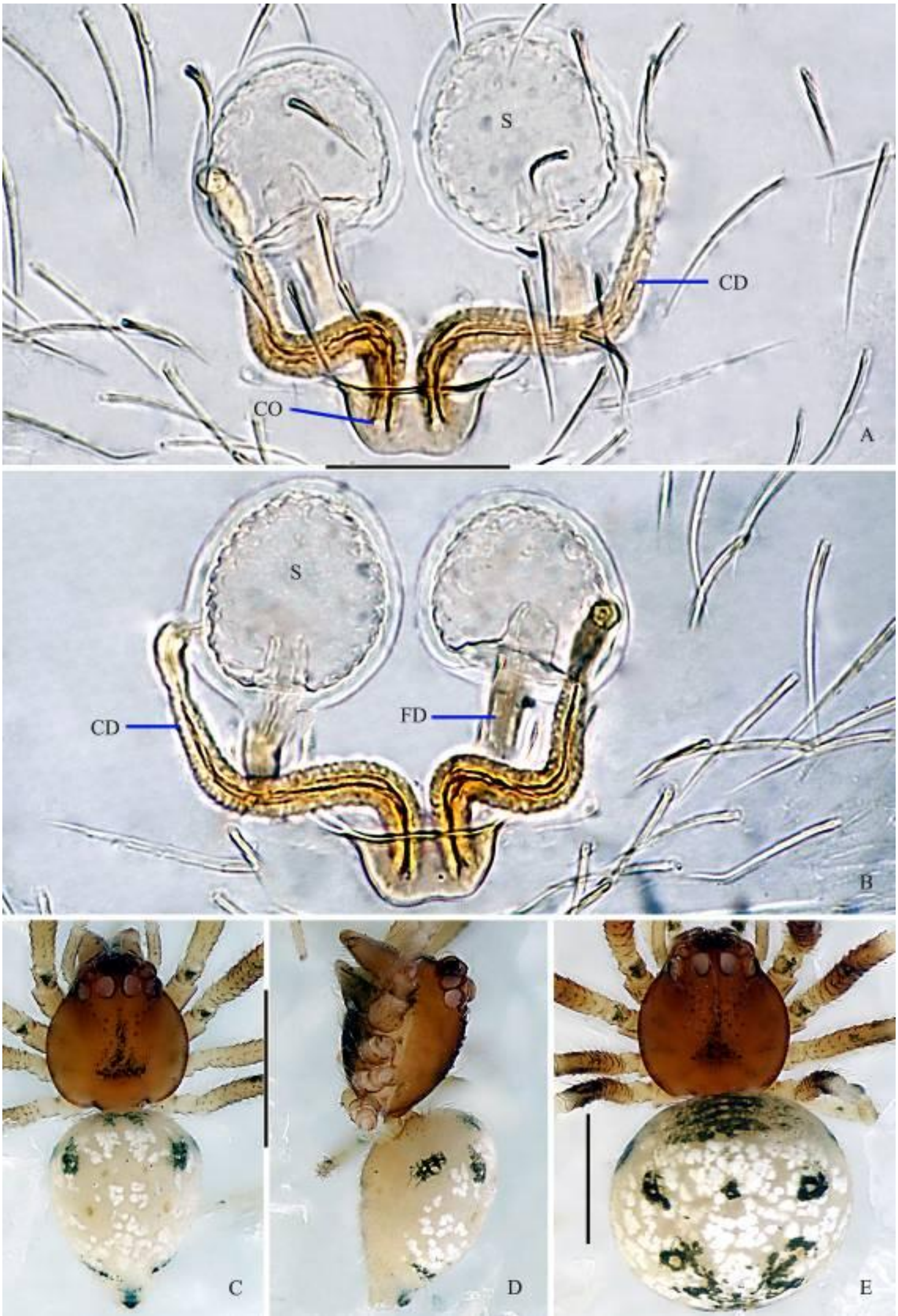

Fig. 95. *Theridion mucidum* **sp. nov.**, holotype male and paratype female. A. Epigynum (vulva), ventral view; B. Epigynum (vulva), dorsal view; C. Male habitus, dorsal view; D. Male habitus, lateral view; E. Female habitus, dorsal view. Scale bars: A–B = 0.05 mm, C–E= 0.50 mm.

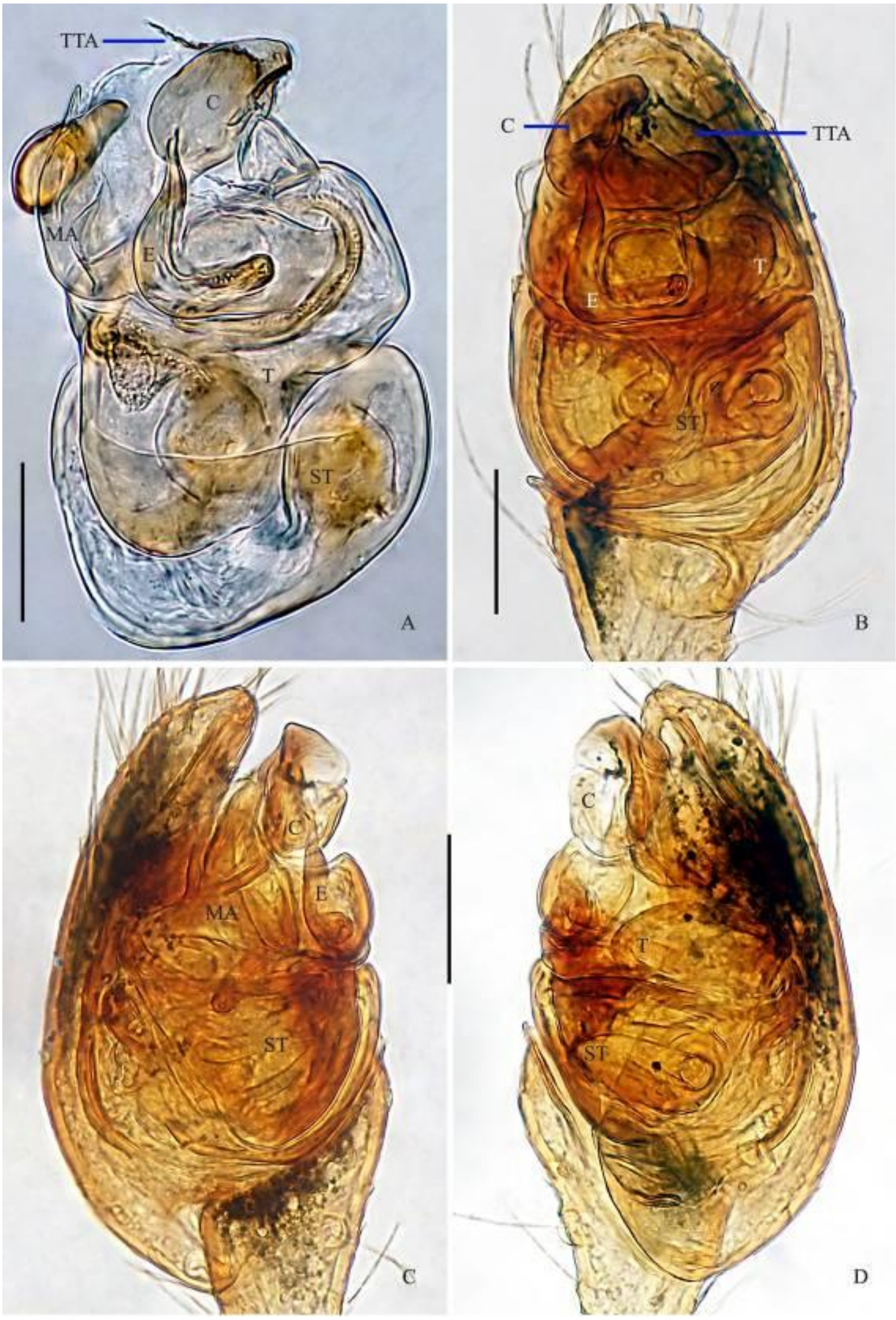

Fig. 96. *Theridion mucidum* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.05 mm.

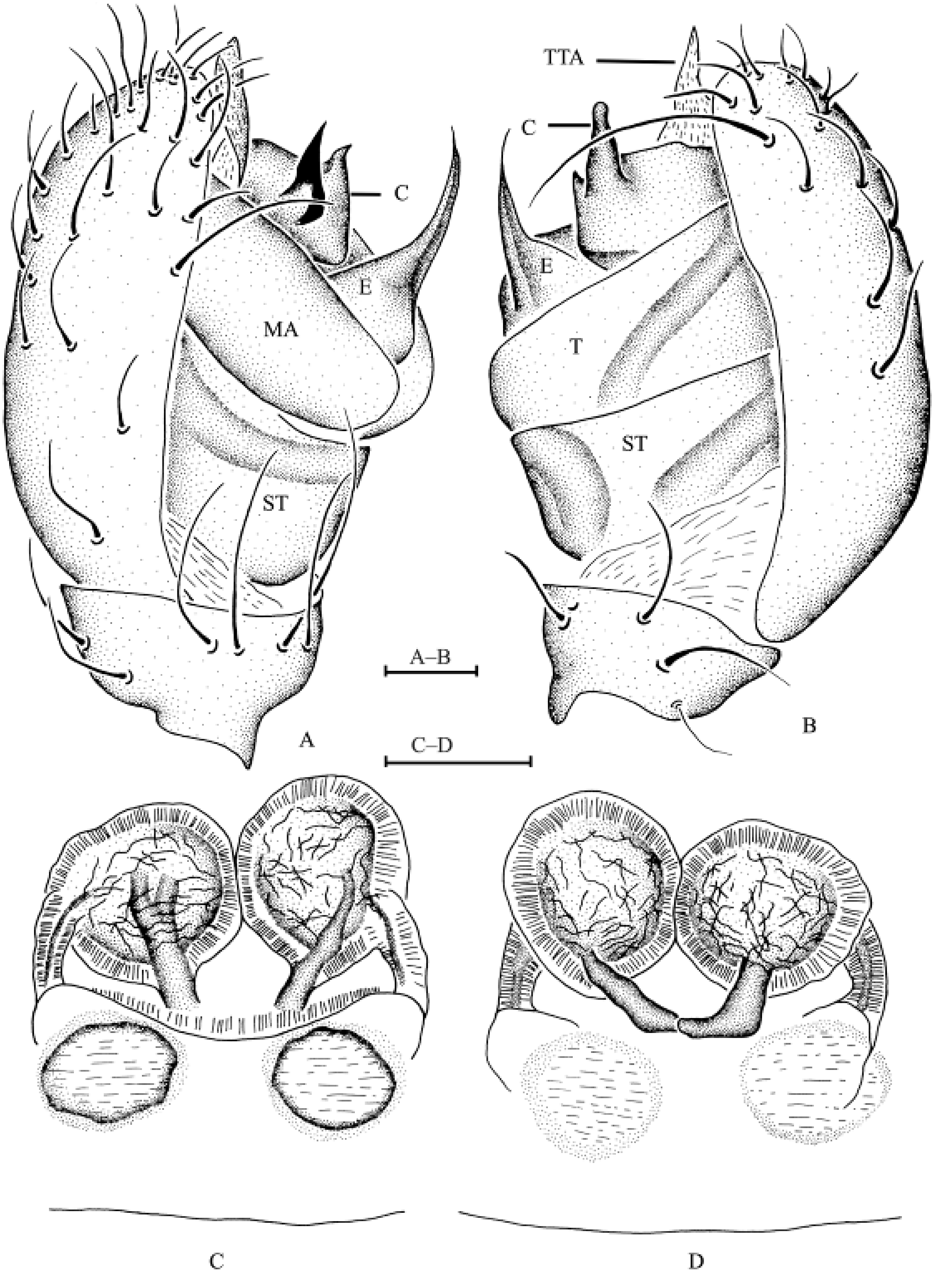

Fig. 97. *Theridion papillatum* **sp. nov.**, holotype male and paratype female. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view; C. Epigynum (vulva), ventral view; D. Epigynum (vulva), dorsal view. Scale bars = 0.05 mm.

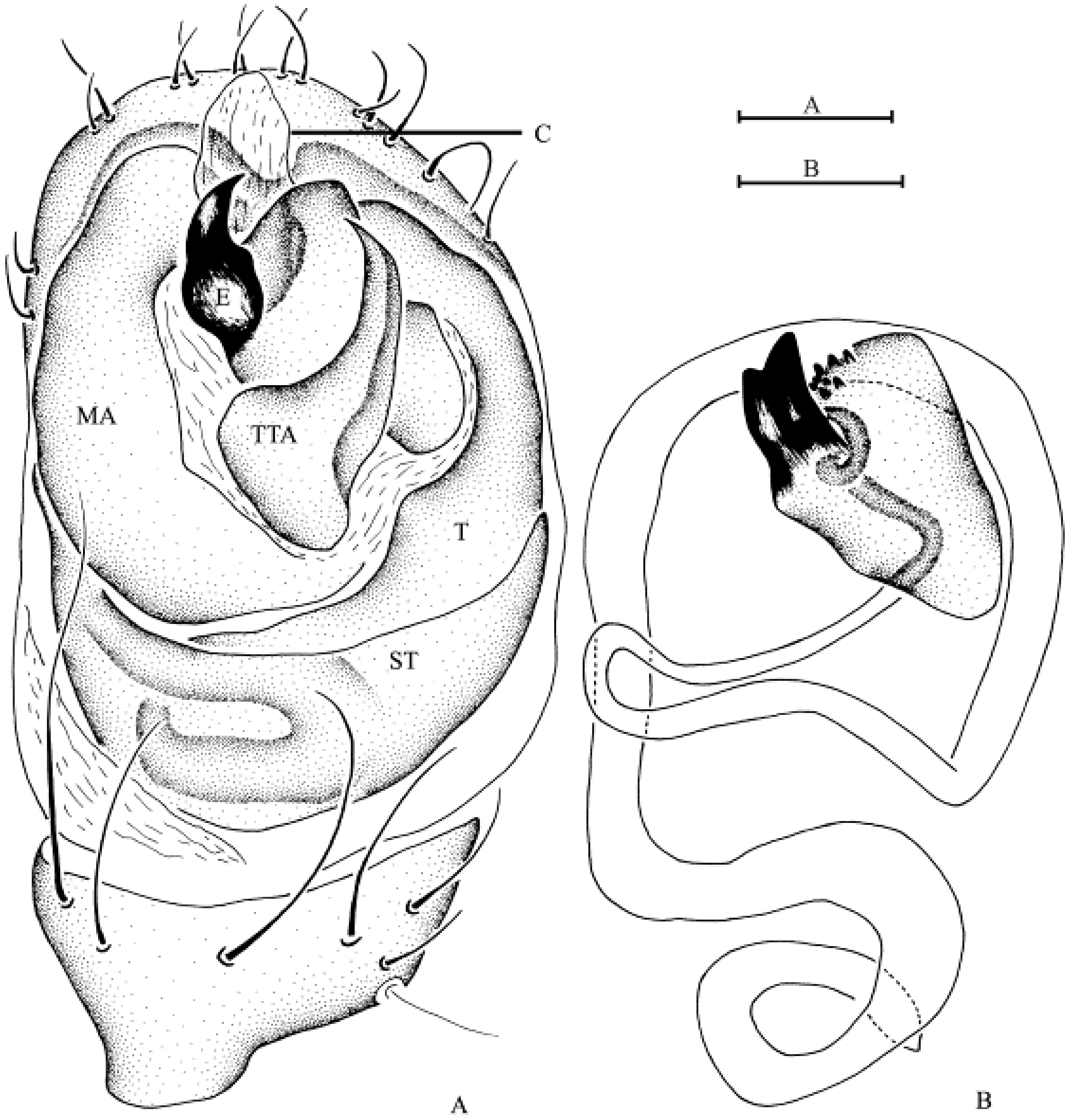

Fig. 98. *Theridion papillatum* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view. Scale bars = 0.05 mm.

Diagnosis. The new species is somewhat similar to *T. sangzhiense*, but can be distinguished by having the conductor membranous; the embolus with tiny apophyses, the tegular apophysis with an acute tip, and the median apophysis stick-shaped.

Male (measurements of holotype). Total length 1.30. Prosoma 0.50 long, 0.55 wide, yellow, with 5 long setae. Sternum 0.63 long, 0.63 wide, yellow with long setae. Opisthosoma 0.85 long, 0.93 wide, pale, with sclerotized ring around pedicel and spinnerets, with black, white spots, without colulus. Eye measurements: AME 0.09, ALE 0.06, PME 0.06, PLE 0.06, AME-AME 0.04, AME-ALE 0.02, PME-PME 0.04, PME-PLE 0.04. Clypeus height about 2.00 times AME diameter, yellow with black spot. Chelicerae: yellow, with spines, without tooth; fangs long. Endites: 0.18 long, 0.13 wide, yellow, with brown pro-edges. Labium fused with sternum, 0.06 long, 0.13 wide, with 6 setae, pale yellow without spot. Leg measurements: I 1.68 (0.50, 0.19, 0.40, 0.31, 0.28); II 1.67 (0.50, 0.19, 0.33, 0.40, 0.25); III 1.40 (0.43, 0.19, 0.28, 0.25, 0.25); IV 1.68 (0.50, 0.19, 0.40, 0.31, 0.28). Leg I yellow, without spot; femur with slender setae, without spine; patella with 1 distal spine; tibia with 2 spines; metatarsus, tarsus without spines; legs II–IV similar to leg I, yellow, without

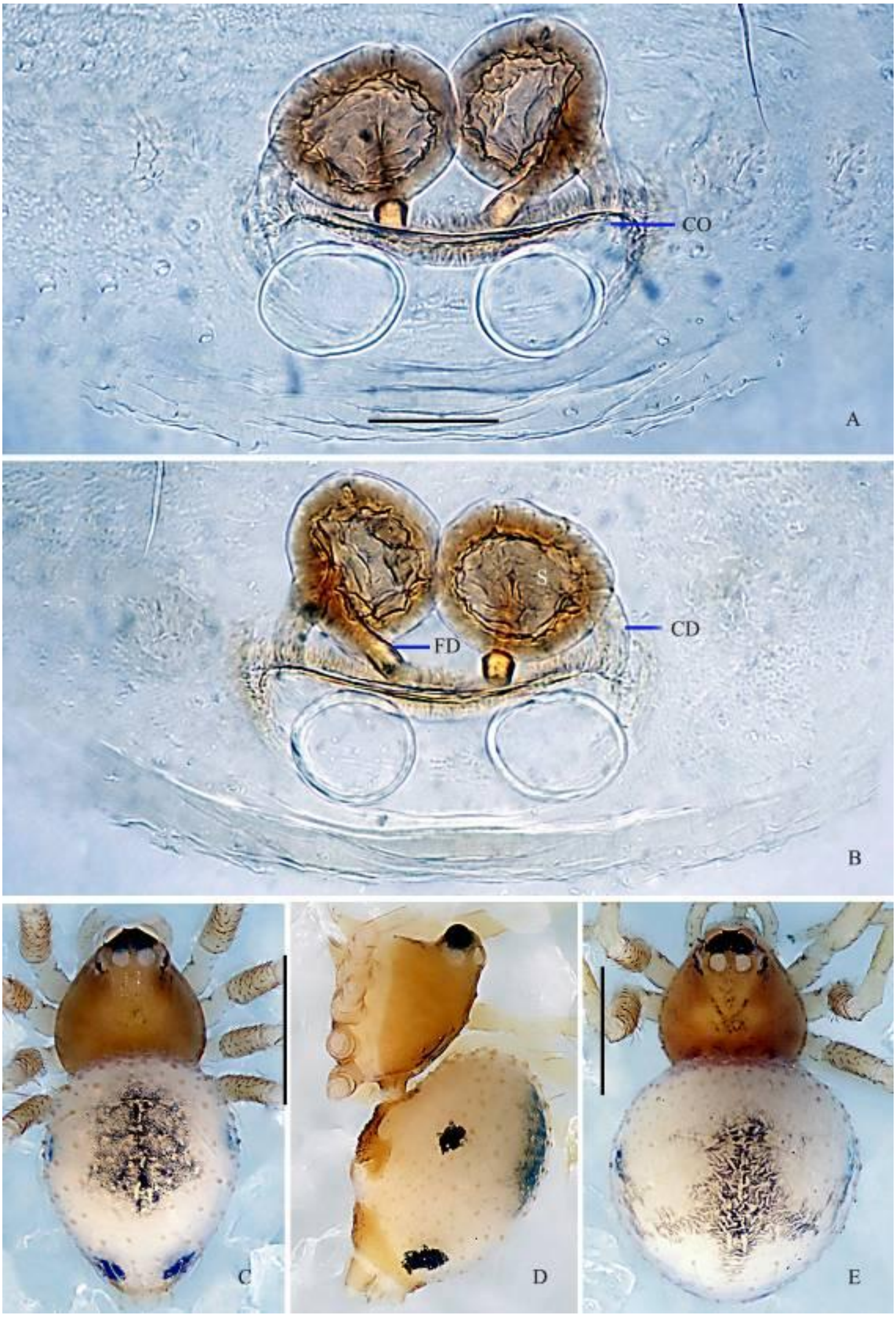

Fig. 99. *Theridion papillatum* **sp. nov.**, holotype male and paratype female. A. Epigynum (vulva), ventral view; B. Epigynum (vulva), dorsal view; C. Male habitus, dorsal view; D. Male habitus, lateral view; E. Female habitus, dorsal view. Scale bars: A–B= 0.05 mm; C–E = 0.50 mm.

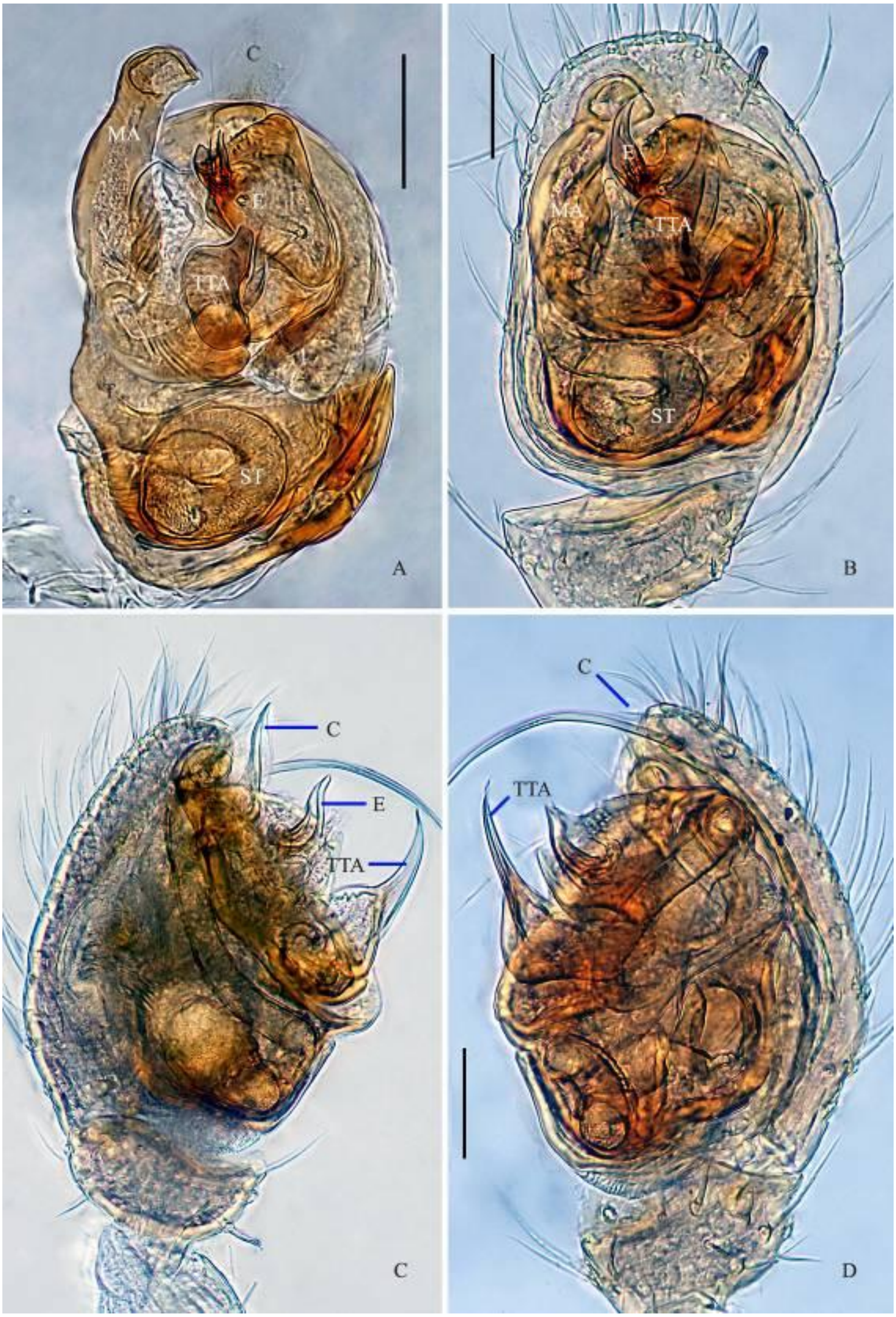

Fig. 100. *Theridion papillatum* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.05 mm.

spot. Pedipalpus (Figs 97A–B, 98A–B, 100A–D): tibia pale yellow, with 1 trichobothrium; cymbium pale yellow, without spot; paracymbium hooked; subtegulum broad; tegulum confined; median apophysis stick-shaped, without apophysis; embolus short, with tiny apophyses; conductor membranous; tegular apophysis with acute tip.

Female (measurements of paratypes). Total length 1.40–1.55. Prosoma 0.60–0.63 long, 0.50–0.58 wide, flat, yellow, with black stripes, long setae. Sternum 0.36–0.38 long, 0.36– 0.38 wide, pale yellow. Opisthosoma 0.90–1.13 long, 0.80–1.13 wide, pale, with sclerotized ring around pedicel and spinnerets, with black spots. Legs pale yellow, similar to male. Epigynum (Figs 97C–D, 99A–B): epigynum flat, with 2 membranous circles; copulatory openings large; spermathecae circular, yellow, crimpled; copulatory ducts short, from middle part of spermathecae, opening to anterior margin of atrium; fertilization ducts yellow, from posterior edge of spermathecae.

Distribution. Only known from type locality (Yunnan).

Theridion pinastri **L. Koch, 1872**

Theridion pinastri L. Koch, 1872: 249; Hu, 1984: 171, figs 179.1–3; Guo, 1985: 98, figs 2–42.1–2; Song, 1987: 127, fig. 88; Feng 1990: 121, figs 96.1–3; Chen & Gao, 1990: 97, figs 122a–b; Chen & Zhang, 1991: 154, figs 151.1–3; Zhu, 1998: 191, figs 124A–E; Song *et al*., 1999: 138, figs 78C–D, K–L; Song *et al*., 2001: 114, figs 56A–E.

Theridion pinastraides Zhu *et al*., 1985: 104, figs 90a–c (nomen nudum).

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun, rubber-tea plantation (about 20 years) (21°55.551'N, 101°16.923'E), 19–26 March 2007, Guo Zheng leg.

Distribution. China (Yunnan); Palearctic.

Theridion squamosum **sp. nov.** (Figs 101–103)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun, primary tropical seasonal rainforest (21°55.035'N, 101°16.500'E), 22 July 2007, Guo Zheng leg.

Etymology. The specific name derives from the Latin adjective *squamosus* and means scaly, in reference to the median apophysis with scaly protuberance.

Diagnosis. The new species is somewhat similar to *T. hotanense*, but can be distinguished by the median apophysis with scaly protuberance; conductor smooth, without acute apophysis.

Male. Total length 1.38. Prosoma 0.75 long, 0.50 wide, foreside high, yellow, with many setae, without spot. Sternum 0.25 long, 0.30 wide, yellow with black edge. Opisthosoma 0.83 long, 0.50 wide, pale, with large black, tiny white spots, without colulus. Eye measurements: AME 0.08, ALE 0.06, PME 0.06, PLE 0.06, AME-AME 0.06, AME-ALE 0.04, PME-PME 0.04, PME-PLE 0.09. Clypeus height about 0.92 times AME diameter, yellow, without spot. Chelicerae: yellow, with 2 anterior teeth, 3 long spines; fangs long. Endites: 0.19 long, 0.09 wide, yellow, with brown pro-edges, long setae. Labium fused with sternum, 0.05 long, 0.11 wide, with 4 setae, yellow without spot. Leg measurements: I 1.37 (0.45, 0.14, 0.30, 0.28, 0.20); II 1.26 (0.31, 0.15, 0.31, 0.21, 0.28); III 1.23 (0.38, 0.15, 0.29, 0.21, 0.20); IV 1.64 (0.45, 0.19, 0.38, 0.31, 0.31). Leg I yellow, without spot; femur with 2 rows of spines; patella with 2 spines; tibia with 2 spines; metatarsus without spine; tarsus without spine. Legs II–IV similar to leg I, yellow without spot. Pedipalpus (Figs 101A–B, 102A–B, 103A–D): tibia pale yellow, with 1 trichobothrium; cymbium pale yellow, without spot; paracymbium hooded; subtegulum large; tegulum confined; median apophysis with scaly protuberance; embolus long, curved; conductor surrounding tip of embolus.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

Theridion submirabile **Zhu & Song, 1993**

Theridion submirabilis Zhu & Song in Song *et al*., 1993: 858, figs 12A–F.

Theridion submirabile Zhu, 1998: 138, figs 81A–F; Song *et al*., 1999: 142, figs 80G–H, O–P.

Material examined. China, Yunnan, 2♂, 5♀, Xishuangbanna, Menglun Nature Reserve, secondary tropical seasonal moist forest (21°54.390'N, 101°16.811'E), 10 August 2007, Guo Zheng leg.; 1♂, Menglun, primary tropical seasonal rainforest (21°55.035'N, 101°16.500'E), 22 July 2007, Guo Zheng leg.

Distribution. China (Fujian, Hainan, Yunnan); Korea.

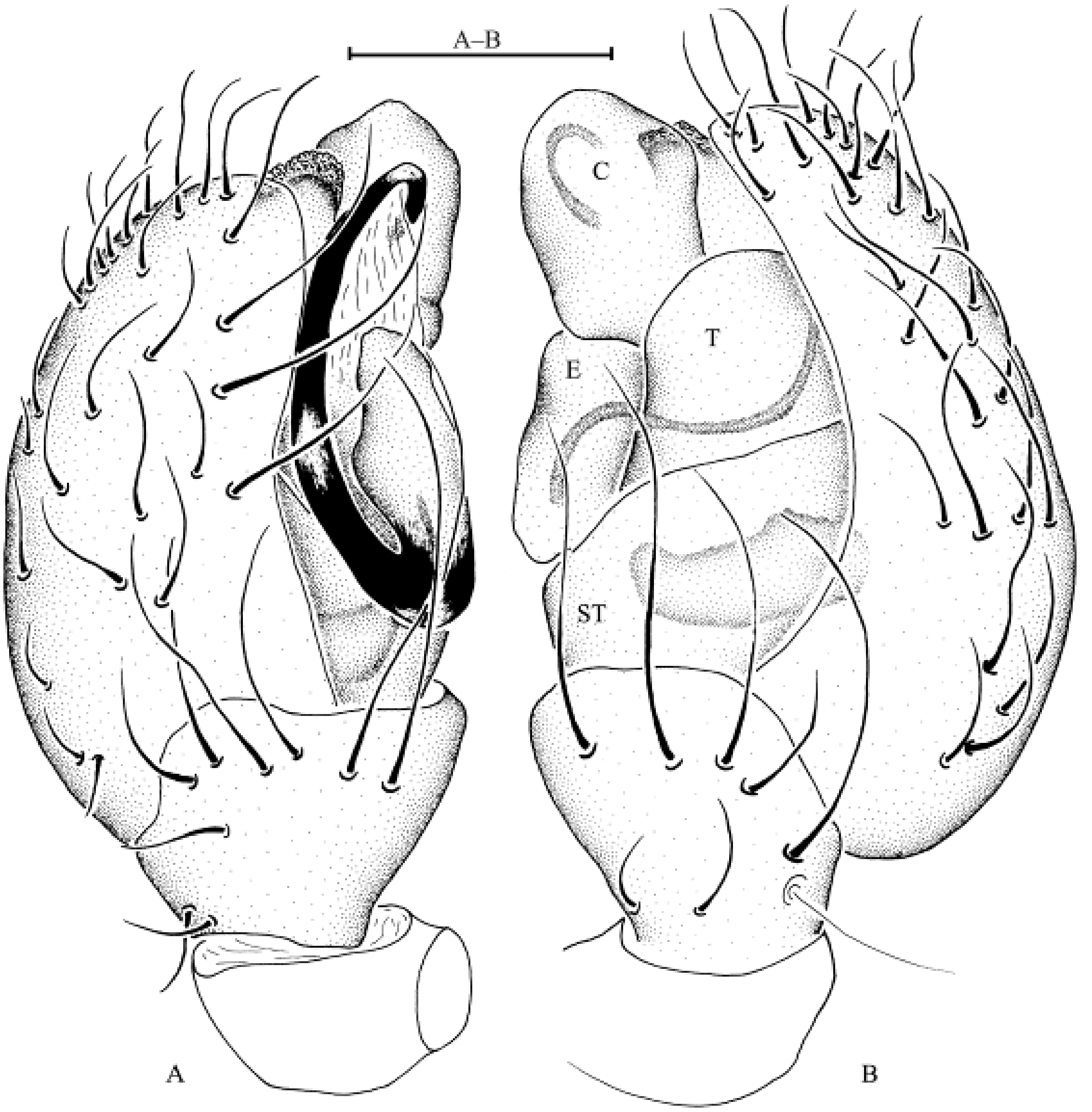

Fig. 101. *Theridion squamosum* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.10 mm.

3.29 Genus *Thwaitesia* O. P.-Cambridge, 1881

Thwaitesia margaritifera **O. P.-Cambridge, 1881**

Thwaitesia margaritifera O. P.-Cambridge, 1881: 766, pl. 66, fig. 1; Zhu, 1998: 286, figs 193A–D; Song *et al*., 1999: 149, figs 83O–P.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun, rubber plantation (about 20 years) (21 °54.463'N, 101 °15.978'E), 21 July 2007, Guo Zheng leg.; 1♂, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21 °54.767'N, 101 °11.431'E), 6 August 2007, Guo Zheng leg.

Distribution. China (Sichuan, Yunnan); Sri Lanka, Vietnam.

3.30 Genus *Thymoites* Keyserling, 1884

Diagnosis. The genus differ from other genera by male prosoma often modified; chelicerae with 1 anterior tooth; legs

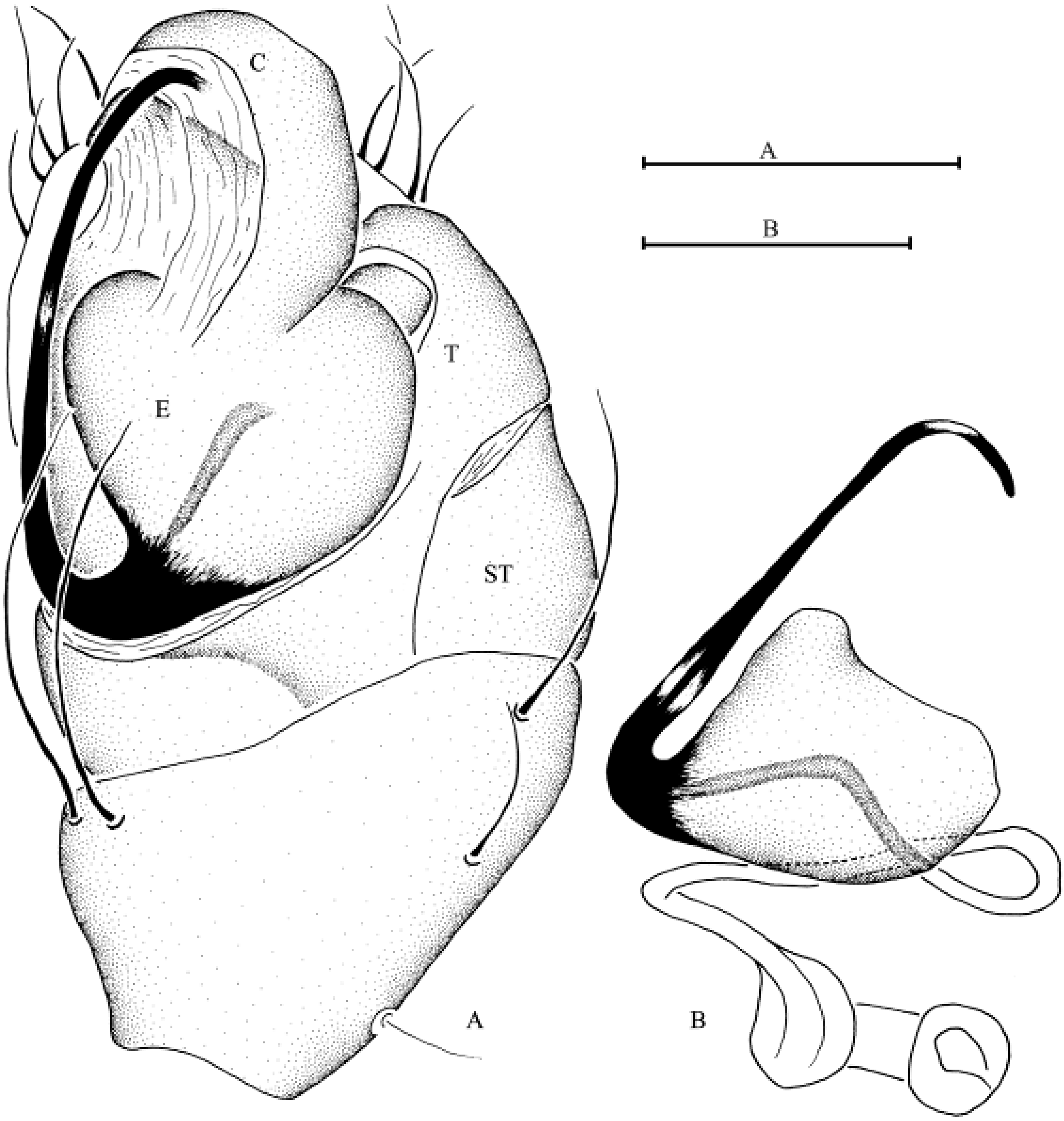

Fig. 102. *Theridion squamosum* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view. Scale bars = 0.10 mm.

short; colulus absent; male pedipalpus with all sclerites present; epigynum strongly sclerotized and protruding posteriorly (Levi & Levi, 1962; Wunderlich, 2008).

***Thymoites ramosus* sp. nov.** (Figs 104–106)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun, tropical evergreen rainforest (21°56.206'N, 101°16.204'E), 1 December 2009, Guo Tang and Zhi-Yuan Yao leg.

Etymology. The specific name derives from the Latin adjective *ramosus* and means branchy, in reference to the pedipalpus with 3 acute apophyses in retrolateral view.

Diagnosis. The new species is very similar to *T. elongatus*, but can be distinguished by the shorter embolus and be having 2 acute apophyses of the pedipalpus distinct in ventral view (Hu *et al.*, 2008).

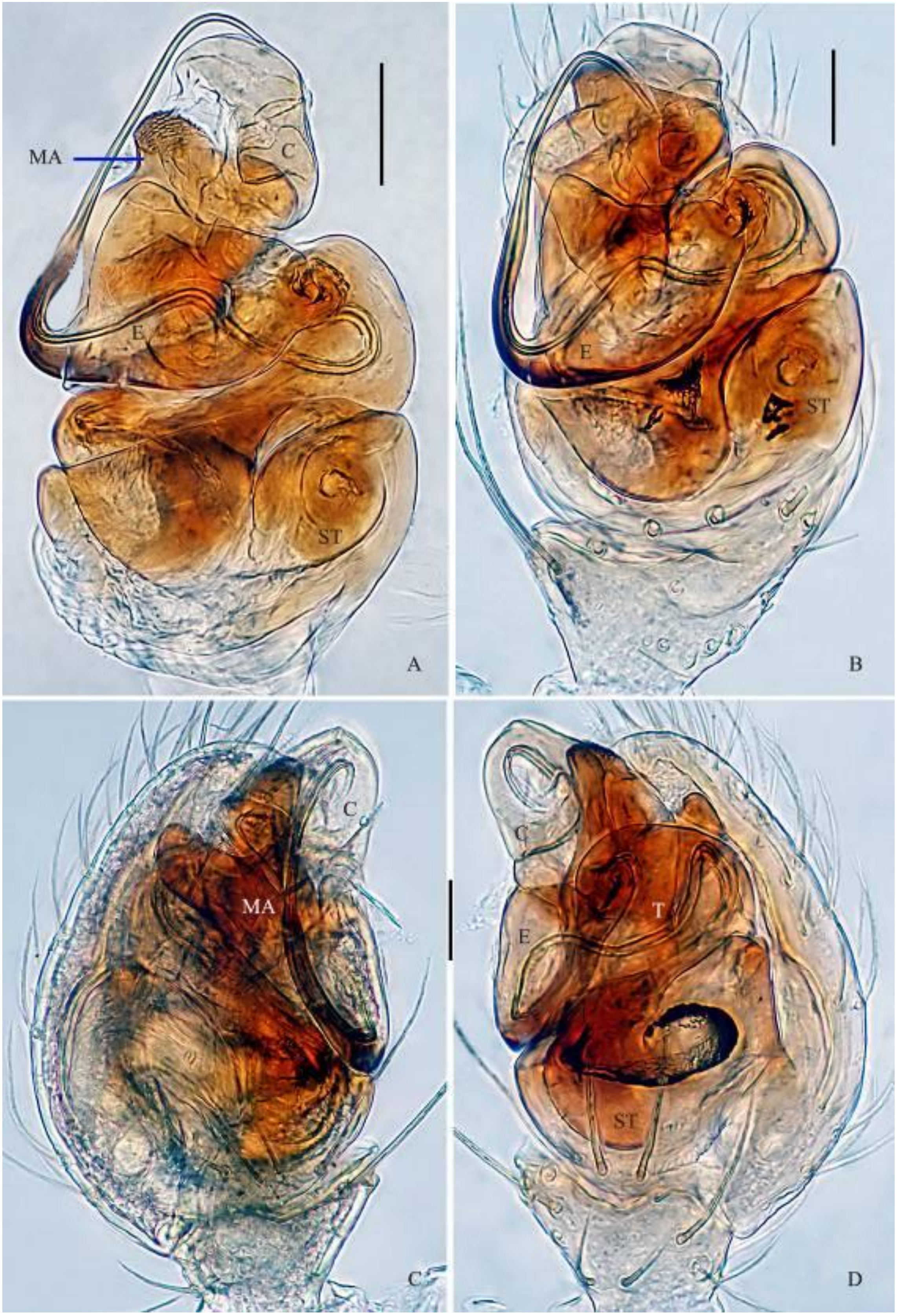

Fig. 103. *Theridion squamosum* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.05 mm.

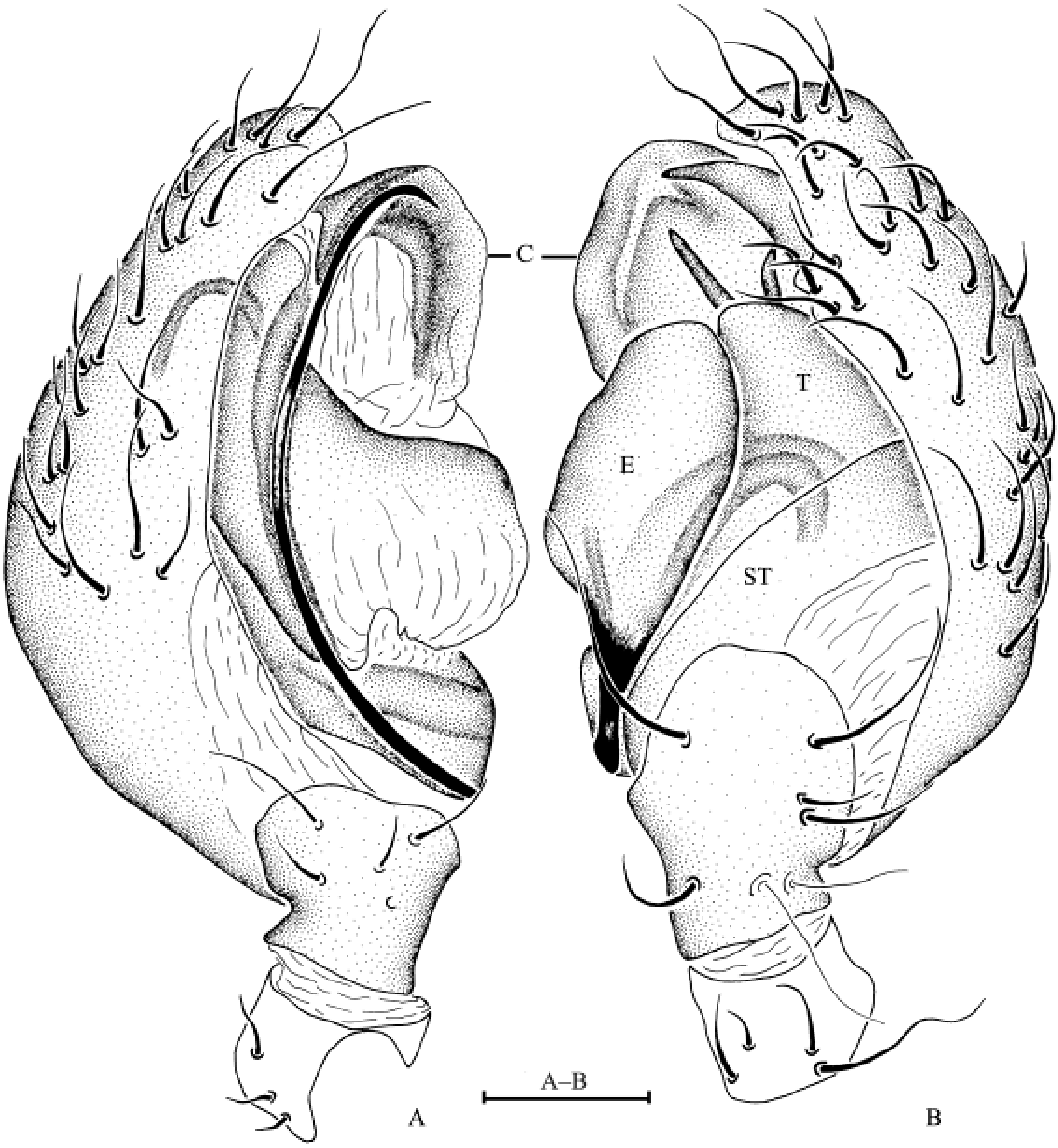

Fig. 104. *Thymoites ramosus* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.10 mm.

Male (measurements of holotype). Total length 2.45. Prosoma 1.18 long, 0.80 wide, flat, pale, with brown triangular spot, 2 long spines. Sternum 0.50 long, 0.50 wide, pale. Opisthosoma 1.38 long, 0.88 wide, pale, with black spots, without colulus. Eye measurements: AME 0.08, ALE 0.06, PME 0.08, PLE 0.08, AME-AME 0.50, AME-ALE 0.02, PME-PME 0.38, PME-PLE 0.05. Clypeus height about 2.69 times AME diameter, pale, with row of spines. Chelicerae: pale yellow, with 5 spines, without tooth; fangs long and slender. Endites: 0.25 long, 0.13 wide, pale, with brown pro-edges, 2 long setae. Labium fused with sternum, 0.06 long, 0.17 wide, with 2 setae, pale yellow, without spot. Leg measurements: I 4.43 (1.30, 0.30, 1.15, 1.13, 0.55); II 4.23 (1.25, 0.30, 1.05, 1.00, 0.63); III 3.95 (1.25, 0.25, 1.00, 0.85, 0.60); IV 5.31 (1.88, 0.30, 1.25, 1.25, 0.63). Leg I pale, without spot; femur without spine; patella with 2 spines; tibia with 2 spines; metatarsus, tarsus without spines. Legs II–IV similar to leg I, without spot. Pedipalpus (Figs 104A–B, 105A–C, 106A–D): tibia yellow, with 2 trichobothria; cymbium yellow, with 2 spines; paracymbium hooked; subtegulum indistinguishable; median

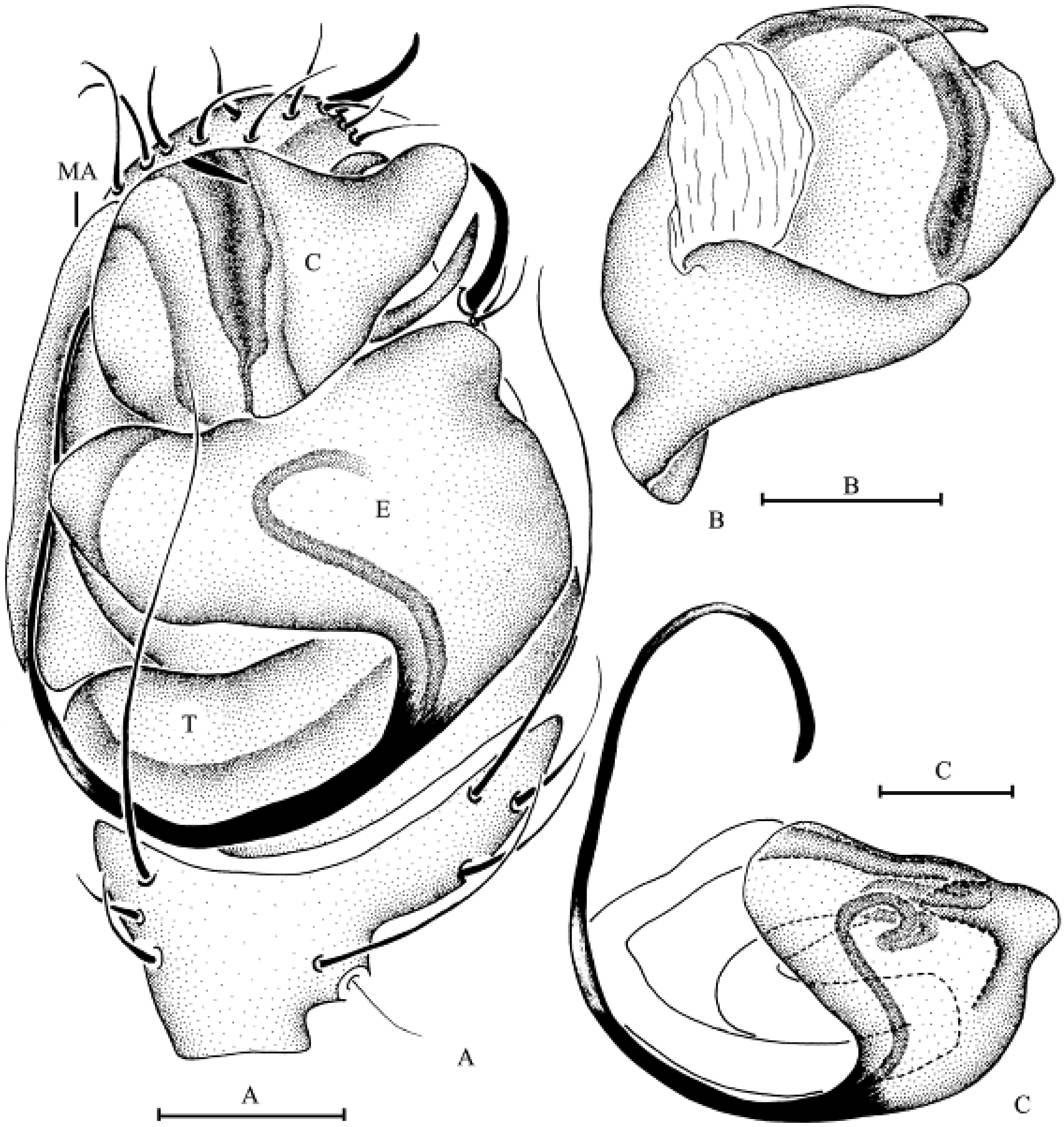

Fig. 105. *Thymoites ramosus* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Conductor, ventral view; C. Embolus, ventral view. Scale bars = 0.10 mm.

apophysis smooth, without apophysis; embolus long, part of it embedded in conductor and median apophysis; conductor with acute apophysis; tegular apophysis indistinguishable.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

3.31 Genus *Yaginumena* Yoshida, 2002

***Yaginumena maculosa* (Yoshida & Ono, 2000)**

Dipoena maculosa Yoshida & Ono, 2000: 147, figs 37–39.
Yaginumena maculosa Yoshida, 2002: 13, fig. 2.

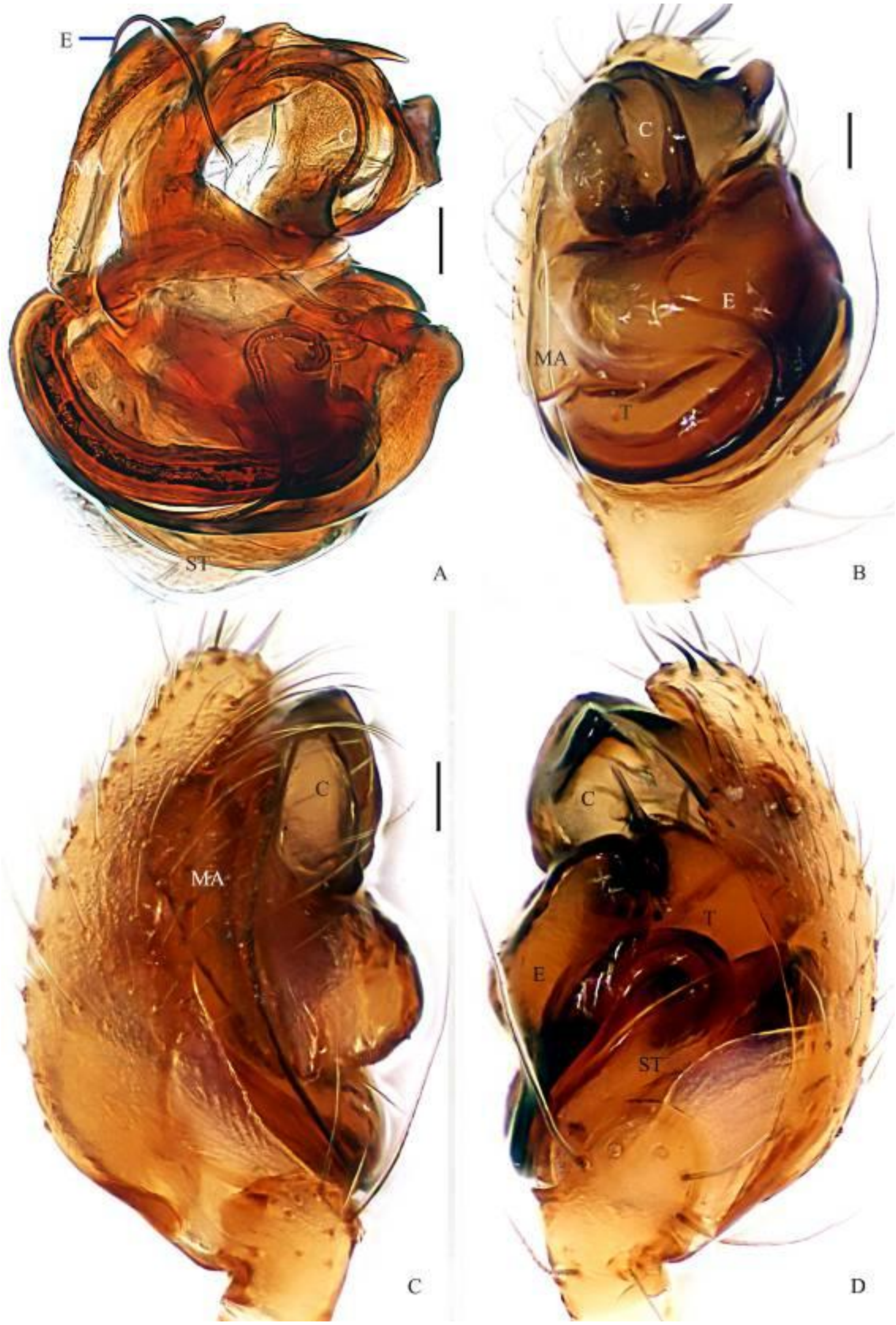

Fig. 106. *Thymoites ramosus* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.05 mm.

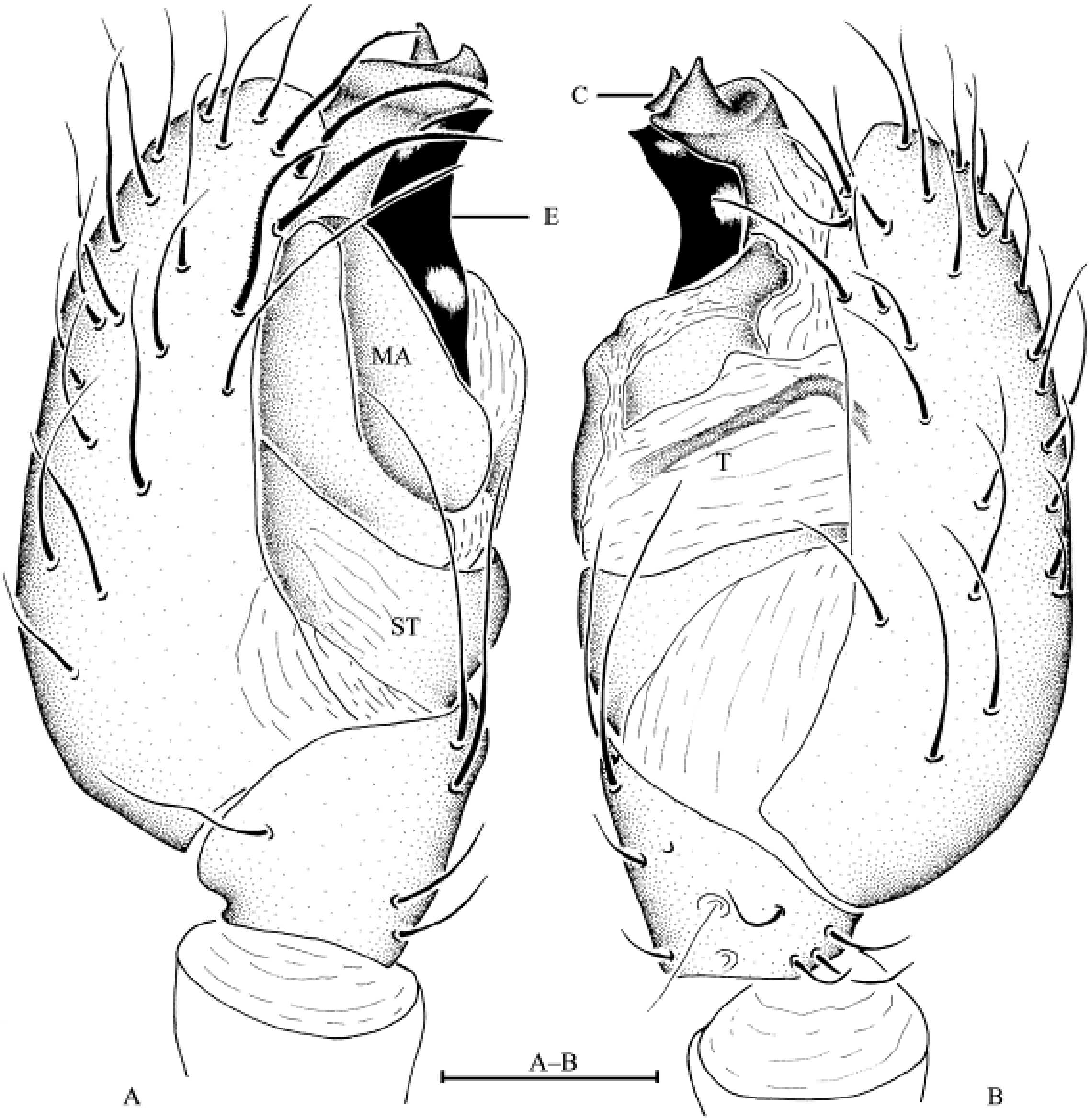

Fig. 107. *Yunohamella gibbosa* **sp. nov.**, holotype male. A. Pedipalpus, prolateral view; B. Pedipalpus, retrolateral view. Scale bar = 0.10 mm.

Material examined. China, Yunnan, 6♂, Xishuangbanna, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°53.823'N, 101°17.072'E), 1–15 May 2007, Guo Zheng leg.; 1♂, 1♀, Menglun, rubber-tea plantation (about 20 years) (21°55.551'N, 101°16.923'E), 16–31 January 2007, Guo Zheng leg.; 2♂, Menglun Nature Reserve, secondary tropical montane evergreen broad-leaved forest (21°54.813'N, 101°12.634'E), 16–31 February 2007, Guo Zheng leg.

Distribution. China (Yunnan); Abkhazia, Azerbaijan, Japan.

3.32 Genus *Yunohamella* Yoshida, 2007

Diagnosis. The genus resembles *Takayus* Yoshida, 2001 and *Theridion* Walckenaer, 1805, but can be distinguished by the basically dark body; male pedipalpus with a short and straight embolus; large tegulum; conductor conjugated with tegulum; tegular apophysis small; epigynum without pointed scapus or depression (Yoshida, 2007).

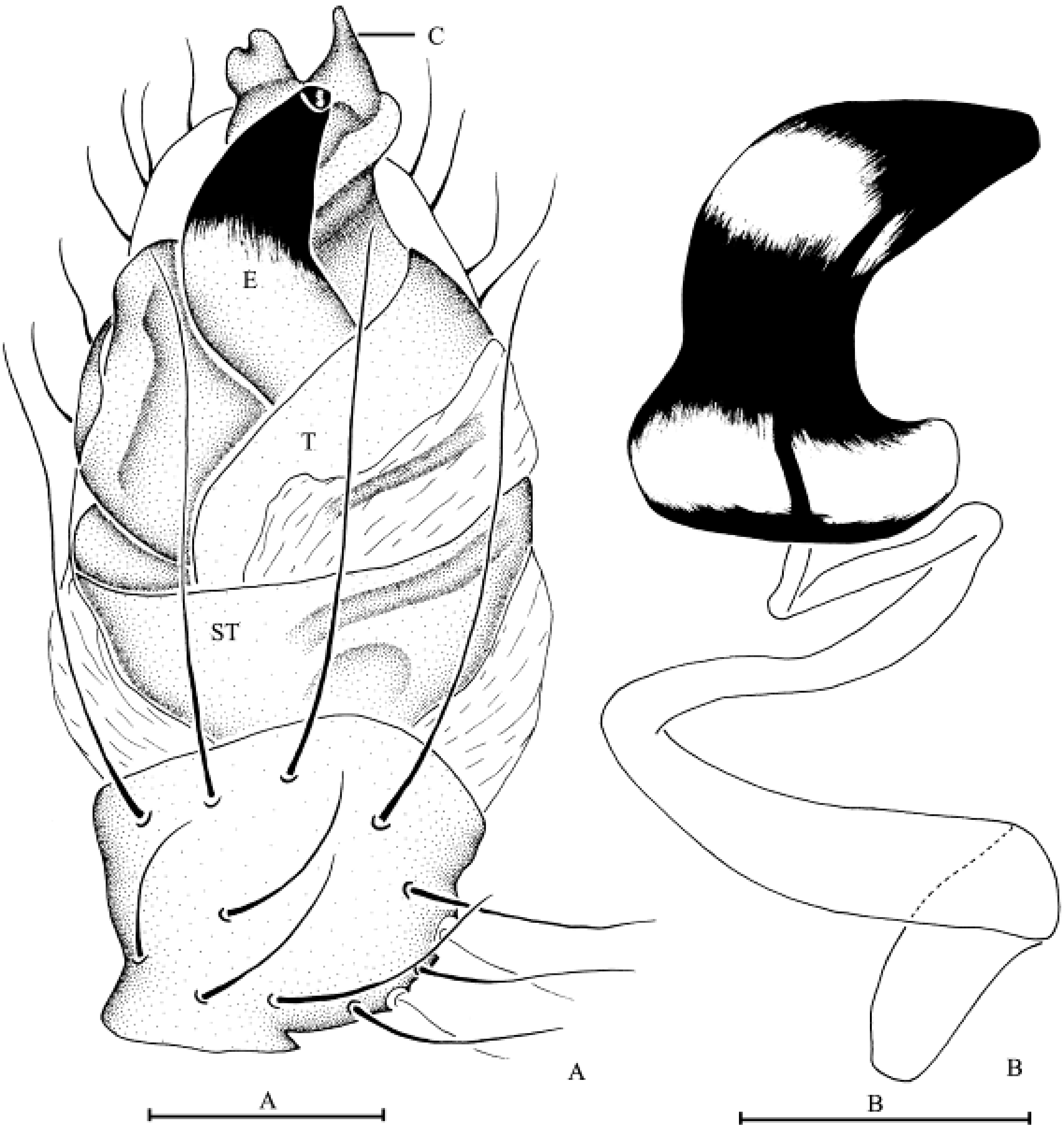

Fig. 108. *Yunohamella gibbosa* **sp. nov.**, holotype male. A. Pedipalpus, ventral view; B. Embolus, ventral view. Scale bars = 0.10 mm.

Yunohamella gibbosa **sp. nov.** (Figs 107–109)

Holotype ♂, China, Yunnan, Xishuangbanna, Menglun, primary tropical seasonal rainforest (21°55.035'N, 101°16.500'E), 22 July 2007, Guo Zheng leg.

Etymology. The specific name derives from the Latin adjective *gibbosus* and means humpbacked, in reference to the conductor with 2 apophyses, shaped like humpback.

Diagnosis. The new species is somewhat similar to *Y. lyrica*, but can be distinguished by having the embolus strong; conductor with 2 apophyses; tegulum narrow. The latter species has a slender embolus; conductor curved, with acute end; tegulum very large (Levi, 1957a).

Male (measurements of holotype). Total length 1.60. Prosoma 0.70 long, 0.63 wide, yellow, with black stripes and long setae. Sternum 0.50 long, 0.50 wide, grey with setae. Opisthosoma 0.88 long, 0.63 wide, pale, with large black stripes, tiny black spots, without colulus. Eye measurements: AME 0.09, ALE 0.08, PME 0.08, PLE 0.08, AME-AME 0.08,

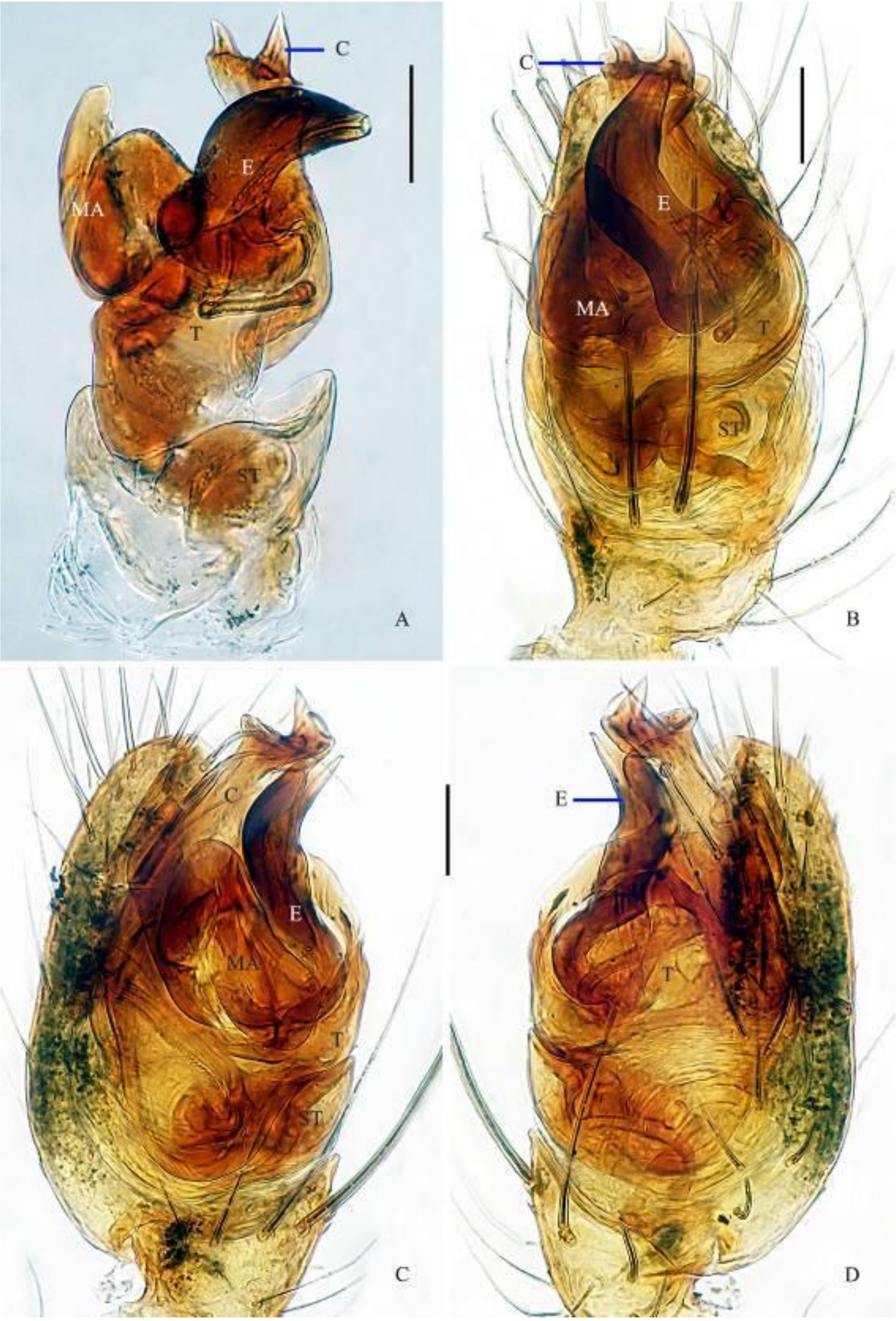

Fig. 109. *Yunohamella gibbosa* **sp. nov.**, holotype male. A. Pedipalpus (cymbium removed), ventral view; B. Pedipalpus, ventral view; C. Pedipalpus, prolateral view; D. Pedipalpus, retrolateral view. Scale bars = 0.05 mm.

AME-ALE 0.03, PME-PME 0.05, PME-PLE 0.08. Clypeus height about 1.60 times AME diameter, yellow without spot. Chelicerae: yellow, with black spot, 2 anterior teeth; fangs long and slender. Endites: 0.28 long, 0.13 wide, yellow to grey, with brown pro-edges. Labium fused with sternum, 0.09 long, 0.15 wide, with 4 setae, yellow to grey. Leg measurements: I 5.49 (1.75, 0.38, 1.50, 1.55, 0.31); II 3.83 (1.25, 0.35, 0.90, 0.88, 0.45); III 2.25 (0.70, 0.15, 0.45, 0.55, 0.40); IV 3.48 (1.10, 0.25, 0.88, 0.80, 0.45). Leg I pale yellow; coxa without spot; femur with 2 black rings; patella with black spot; tibia with 3 black rings; metatarsus with 3 black rings; tarsus with black ring; femur with 3 rows of spines; patella with 2 spines; tibia-tarsus with many spines. Leg II, leg IV similar to leg I; femur III with black spot; tibia III–tarsus III with black spot. Pedipalpus (Figs 107A–B, 108A–B, 109A–D): tibia yellow, with 2 trichobothria, black spot; cymbium yellow, with large black spot; paracymbium hooded; subtegulum broad; tegulum confined; median apophysis smooth, without apophysis; embolus short, strong; conductor with 2 apophyses; tegular apophysis indistinguishable.

Female. Unknown.

Distribution. Only known from type locality (Yunnan).

Yunohamella lyrica (Walckenaer, 1841)

Theridion lyricum Walckenaer, 1841: 288.

Material examined. China, Yunnan, 1♂, Xishuangbanna, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°54.200'N, 101°16.923'E), 18 August 2007, Guo Zheng leg.; 1♂, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°53.823'N, 101°17.072'E), 16 February–2 March 2007, Guo Zheng leg.; 1♂, Menglun, *Paramichelia baillonii* plantation (about 20 years) (21°54.200'N, 101°16.923'E), 16–31 March 2007, Guo Zheng leg.

Distribution. China (Yunnan); Holarctic.

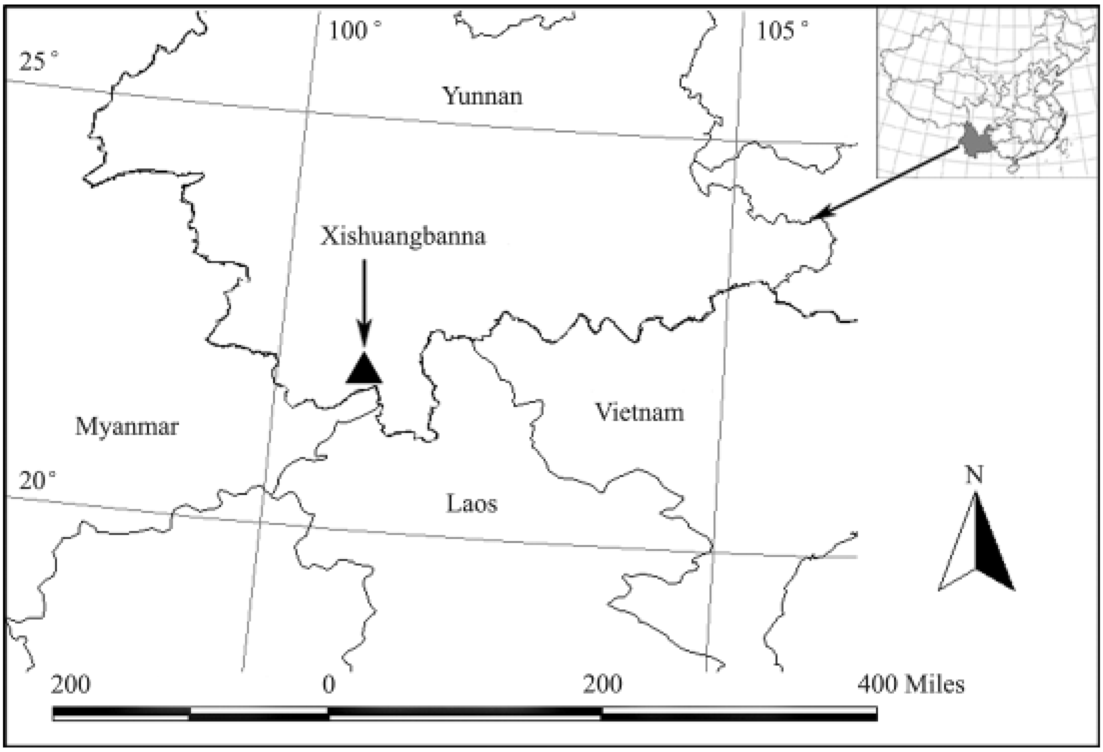

Fig. 110. Locality of Xishuangbanna, from which the species of theridiid were collected.

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